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CONDITIONING
ERATION
the Industry

NEWS

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Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Story of the Week

Rebel Marshallite Strikes A Blow for Freedom

Why Amana Is on Top
What Is Automation?
Advice to Parents
Junior Will Love This
Stuff
Warning

Story of the Week

"I fine you \$50 for contempt
of court," gavelled Judge Bull-
throwt.

"Your Honor," snorted the
defendant, tossing over a hun-
dred-dollar bill, "\$50 doesn't ex-
press my contempt of your
court."

And then the fun began.

Rebel Marshallite Strikes A Blow for Freedom

Last time "Dope's" hometown
(miniscule but doughty Marsh-
all, Ill.) hit newspaper front
pages all around the nation was
some 70 years ago.

Respected judge, born and
raised in Marshall, turned down
an appointment to the U. S.
Supreme Court—the only man
in our nation's history who re-
fused to accept America's high-
est honor. (His ailing wife
needed his personal care.)

Next time was a fortnight
ago. Farmer Ron Medsker
gained applauded fame by bust-
ing down all but two of Marsh-
all's recently installed parking
meters, thus realizing a Dream
of Valor which most people har-
bor.

Soberly he drove his farm
truck around the Public Square,
and sheared off 42 of the ding-
uses he detested.

Why didn't police stop him?

Reason: For more than a
hundred years Marshall hasn't
needed a police force. No crime.
Home-owners don't lock their
doors, and the porchlights shine
all night (a Marshall specialty)
with an implied welcome to vis-
itors or even intruders.

There's a night-time police-
man on duty usually; but often
in the past he has been hired
because he was either a "good
guy" or a rocking-chair oldster
who needed a sinecure.

A law-abiding town!

Why Amana Is on Top

Undoubtedly there are a few
other American towns which are
similarly blessed. Recently
"Dope" enjoyed a happy day in
a community which outdoes
Marshall in that respect, and in
a really big way—Amana, Iowa.

The five "towns" named
Amana have no policemen,
(Concluded on Page 8, Col. 1)

Challenge To the Plastics Industry Refrigeration Needs Big Dreamers

Toward the end of World War II a salty character by
the name of Leon Henderson gave out his definition of "post
war planning," to wit:

"Everybody is going to butt into everybody else's busi-
ness, and he's going to make it out of plastics."

That hasn't exactly come true in the refrigeration and
air conditioning field although considerable progress has
been made in the application of plastics bits and pieces as
substitutes for metallic parts.

And, surprisingly, the refrigeration industry now is the
biggest user of plastics. Authority for this statement is W.
T. Cruse, executive vice president of The Society of the
Plastics Industry.

Even so, the big news could be ahead of us: an all-
plastic, self-insulating cabinet. If and when this big dream
comes true, not only will our business save tremendous
tooling and fabricating and shipping costs, but the plas-
tics people will multiply their present market in the refrig-
eration industry astoundingly. Is that just a "beautiful
dream?" Let's look at the record.

Fifteen years ago or so, when plastics were just begin-
ning to be applied to refrigerator construction, the only

(Concluded on page 16)

Plastic Cabinet Combination Due At Westinghouse

NEW YORK CITY—Westing-
house Electric Corp., in mid-
July, will start production on
two built-in combination refrig-
erator-freezer models with cabi-
nets made entirely of plastic ex-
cept for porcelainized metal
doors. The units are scheduled
to be introduced in September
and to be competitively priced.

This was disclosed recently
by O. H. Yoxsimer, the com-
pany's manager of refrigerator-
freezer engineering, who was
here to address the National
Plastics Conference.

In reporting the Westing-
house plastic refrigerator de-
velopment, the N. Y. Journal
of Commerce stated:

"On Tuesday the plastics
industry was urged to de-
velop an all-plastic refrig-
erator by George Taubeneck,
editor of AIR CONDITIONING
& REFRIGERATION NEWS, who
addressed the conference. It
would seem he got a speedy
answer to his request."

(Concluded on Page 4, Col. 4)

Above Normal July Weather Seen as Cooling Sales Aid

NEW YORK CITY—"July's
temperature pattern indicates
above normal conditions in prac-
tically all sections of the coun-
try. The lone exception is in the
North Central States, where the
recent warm trend is expected to
turn slightly cooler than nor-
mal."

That's the forecast for July,
as prepared especially for read-
ers of AIR CONDITIONING & RE-
FRIGERATION NEWS by Weather
Trends, Inc. here, organization
of experienced forecasters who
specialize in making special
long range forecasts for indus-
trial and agricultural interests.

Their forecasts have a high
degree of accuracy, and the June
forecast predicting warm weath-
er that showed up in the past
two weeks, was "against the
trend" of government and other
forecasts.

Following is a regional break-
down of anticipated weather
(Concluded on Page 21, Col. 5)



Home Cooling Sales Booming Biggest Year

DETROIT—How good have
air conditioning sales been this
year?

Probably one of the best clues
to the situation is this summary
of the situation by the Midwest
regional manager of a major
producer of air conditioning
equipment of practically every
type.

"Room Air Conditioners: At
the end of the week of June 11,
in our entire territory which
consists of more than a dozen
Midwest states, there were less
than 600 units in the total com-
bined inventory of all of the
distributors. I would guess that
all of these would have gone out
in the next week, and it is now
a question of seeing how much
more we can get from the fac-
tory, which is still producing.

"Residential Air Condition-
ers: The scarcest of any of our
lines. We've been back-ordered
on comfort cooling systems for
existing homes since April. The
hot spell just made it tougher
because the people who hadn't
had the units installed by that
time really began to scream. The
situation is a little better on
(Concluded on Back Page, Col. 1)

Judson Sayre Gives Figures on Appliance Stocks

CHICAGO—Although sales of
most appliances are up, appli-
ance makers are cutting back
production, according to Judson
S. Sayre, president of Norge
Div., Borg-Warner Corp. He
said overproduction is bringing
about a "readjustment" similar
to cutbacks in the auto indus-
try.

Manufacturers can't keep pro-
ducing "to fill warehouses and
box cars," he told a press con-
ference at the opening of the
Summer Home Furnishings Mar-
ket.

"For the first five months of
1956, retail sales of refrigera-
tors are up 4% over last year,
(Concluded on Page 4, Col. 1)

UA, UAW End Jurisdictional Row at Mack

Dealer Force Installs Plant Air Conditioning, Not Maintenance Men

PLAINFIELD, N. J.—A juris-
dictional dispute that was being
watched closely by the entire
air conditioning industry was
apparently settled, at least for
the time being, when employees
of the Home Master Sales Co.,
Westfield, N. J. air conditioning
dealer, returned to work June
19 installing equipment at the
Mack Mfg. Co. plant here.

The Home Master Sales Co.
installation employees are mem-
bers of the United Association
of Journeymen and Apprentices
of the Plumbing and Pipe Fitting
Industry. When they ar-
rived at the Mack plant more
than a month ago to install 180
tons of packaged air condition-
ing and a cooling tower, they
were met by a protesting group
of some 100 plant maintenance
workers.

The plant maintenance work-
ers, members of the UAW-CIO
claimed the right to the instal-
lation work. When the re-
mainder of the plant force of
(Concluded on Back Page, Col. 3)

Survey Shows 30,330 Bulk Milk Tanks on American Dairy Farms

WASHINGTON, D. C.—There
were 30,330 bulk milk tanks on
farms of American milk produc-
ers in all 48 states, as of Jan. 1,
1956, according to a survey re-
cently completed jointly by Na-
tional Association of Dairy
Equipment Manufacturers and
Dairy Industries Supply Asso-
ciation's Market Data Develop-
ment subcommittee.

This compares with 13,358
farm tanks which were esti-
mated by NADEM to have been
in operation on July 1, 1954. The
new figures, just released, indi-
cate a probability that a 127%
increase occurred in farm bulk
(Concluded on Page 15, Col. 1)

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What's in a name?

QUALITY

...if the Name is

**READING
COPPER TUBING**

FOR REFRIGERATION
& AIR CONDITIONING
EQUIPMENT



READING TUBE CORPORATION

EMPIRE STATE BUILDING, NEW YORK 1, N. Y.
WORKS: READING, PA.

Top Management!

**SMI Dec. 5-7 Meeting
In Miami Beach To Air
Problems, Market Facts**

CHICAGO — The Super Market Institute will hold its annual mid-year top management meeting Dec. 5-7 at the Americana hotel in Miami Beach, Fla., the institute announced recently.

The meeting will feature discussion of current executive problems in the industry and a presentation of "Facts About New Super Markets," a survey of practices, trends, and significant developments in supermarkets opened during the year.

James Cooke, vice president and general manager of Penn Fruit Co., Philadelphia, has been named program chairman for the meeting.

July Weather --

(Concluded from Page 1, Col. 3)
conditions for July:
Northeast

Temperatures will be slightly hotter than usual but not as hot as the record-breaking conditions of July 1955. Rainfall and humidity readings, however, will be higher than last year. All in all, the Northeast will have more than its usual number of uncomfortable days and sales of air-cooling equipment should benefit.

Great Lakes-Midwest

Southern sections of this region will average hotter than normal and as hot as last year. Northern sections of the Midwest will average closer to normal and noticeably cooler than July 1955. Wisconsin, Illinois, Kentucky, and western portions of Indiana will be especially humid.

Southeast

Hot and humid is forecast for most of this region. Temperatures are expected to average approximately three degrees above normal and as much as five degrees hotter than last July. The Carolinas will be slightly drier than normal but elsewhere in the Southeast, higher humidity readings will add to the discomfort.

North Central

Most of the North Central States will be relatively cool and dry. The Dakotas, for example, will average three degrees below normal and approximately 50% of normal rainfall. Farther south, Kansas and Missouri will be more humid than usual with near normal temperatures.

South Central

The South Central States will register the hottest temperatures in the country in July. Afternoon temperatures in the "usually-warmer" locations will reach the 100° mark quite frequently. Rainfall will be below normal in Texas and Oklahoma and above normal in Arkansas and Louisiana.

Northwest-Southwest

No region in the country offers the wide variety of temperature in July as the Far West. San Francisco's normal monthly average of 60° is cooler than any large city. Las Vegas, with a normal 91° average, is among the hottest. In those sections where sales of air-cooling equipment are "normally" good, sales this July should be even better.

CORRECTION

In the story "June Heat Wave Should Assure Record Year" in the June 18 issue of the News, the George L. Johnston Co. of Detroit was incorrectly referred to as a "contractor."

The firm is a major distributor in the Detroit area, and is "not a 'contractor' in any sense of the word," a company official points out.

**Ingersoll Division Promotes
Lawrence J. Hookheem**

KALAMAZOO, Mich.—Lawrence J. Hookheem has been named works accountant and credit manager of the Ingersoll Conditioned Air Div., Borg-Warner Corp. here.

Hookheem has been associated with Borg-Warner for the past nine years.

**the hottest
thing
in
LOW
temperature**

LOWEST in operating costs, too!
Kramer's new "L" THERMOBANK saves important dollars every day it works for you. It's the only LOW temperature automatic hot gas defrost system that works trouble-free at any temperature level, from plus 32° to minus 75°. Let us prove that it costs less to own the best!

WRITE FOR MANUAL TV-320

KRAMER

THERMOBANK

KRAMER TRENTON COMPANY
Trenton 5, New Jersey

Servel Makes All '57 Refrigerators Suitable For Built-In Use

EVANSVILLE, Ind.—Servel, Inc. has answered the growing trend to built-in kitchen appliances by making every refrigerator model in its new line easily adaptable for recessed installation, according to Richard S. Testut, vice president in charge of home appliance sales.

Servel has now made available a refrigerator bezel (or frame) made of anodized and polished aluminum.

The bezel exactly fits the contour of the large 34-in.-wide Servel refrigerators on the sides and top, or the soft, ductile aluminum may be easily cut with an ordinary hacksaw to fit narrower models, it was pointed out.

"The demand on the part of

housewives for built-in kitchen equipment," Testut said, "is growing rapidly. The new Servel bezel, or frame, makes it possible to adapt any model in our refrigerator line for 'flush' or recessed installation."

A folder showing methods of installation comes with each bezel kit, giving step-by-step instructions with illustrations.

The refrigerator bezel is available at a nominal cost to Servel refrigerator buyers.

Phone Call Entitles Prospect to \$10 Discount

COLUMBUS, Ga.—A \$10 bonus was recently offered by a local appliance store to anyone who called in during a two-day promotion.

"We will give you \$10 off on the purchase of a Fedders room air conditioner at anytime during the summer," an ad placed by Cason & Martin Electric Co. TV stated.

Amana Leases Space In Cherry Burrell Plant For Deepfreeze Div. Frigikar Advertises 'Charge It' Plan for Diner's Club Members

CEDAR RAPIDS, Iowa — Space at the Cherry Burrell Corp. plant here recently was leased to Amana Refrigeration, Inc. for its newly-acquired Deepfreeze Div.

It is to be used to store and handle Deepfreeze service parts until other facilities become available.

Amana recently acquired the tooling and other assets and the trade name of Deepfreeze Div., Motor Products Corp.

Rodgers Joins Gundlach & Co.

RICHMOND, Va.—Edward F. Rodgers, Jr., former assistant cashier of the First & Merchants National Bank here, has joined Gundlach & Co., air conditioning and heating equipment distributor, as a sales representative.

DALLAS—Latest to join the growing list of "Charge It" items is the automobile air conditioner.

Frigikar Corp. here, manufacturer of "Frigiking" and "Frigikab" auto air conditioners, recently issued a full page trade magazine advertisement which offered its auto air conditioning units on a "charge it" basis to the membership of the Diners' Club Inc.

Any member bearing a Diners' Club card can have it honored by any Frigiking distributor on the customary Diners' Club charge plan, the advertisement explained.

Particularly interested, according to Frigikar, should be fleet owners of trucks or salesmen's cars.

Admiral Distributing Branch Men Promoted

CHICAGO—A series of executive promotions in Admiral Corp.'s branch distributing organization was announced by W. C. Johnson, sales vice president of the manufacturer.

Clarence S. Tay, general manager of branches, has been appointed executive vice president of Admiral Distributors. His assistants, Phil G. Kerr and Carl Lantz, have been made vice presidents. Other appointments were:

Robert Howard—now vice president-Metropolitan division (New York-Newark); Earl Erickson—now vice president-Chicago division; Arthur J. McGettrick—now vice president-Los Angeles division; Marshall C. Wells—now vice president-Dallas division; and Raymond O. Hebenstreit—now vice president-Milwaukee division.

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...without introducing brazing and joining problems.



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BOHN

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MILWAUKEE • MINNEAPOLIS • MOLINE • NEW YORK • PHILADELPHIA • ROCHESTER • ST. LOUIS

Bohn aluminum tubing is available complete with copper brazing spuds. Call your Bohn representative today.

Appliance Inventories--

(Concluded from Page 1, Col. 3)

automatic washers 20%, and automatic clothes dryers a whopping 40%," declared Sayre.

Yet the industry produced at such a high-level that factory-distributor inventories today total about 500,000 dryers, up from 285,000 a year ago, he continued.

Much the same situation exists in other major appliances. Sayre went on. Automatic washer inventories total 750,000 units, 225,000 more than a year ago. Electric range inventories are 357,000, compared with 290,000, and refrigerators 900,000 as against 884,000.

"In an effort to buy an out-of-proportionate share of the market, a few selfish manufacturers have set off a whole chain of 'wheeling and dealing' price merchandising tactics," he charged.

"A price—any price—below

that of competition is their price to dealers. As a result most of the advertising on automatic washers ranges from \$149 to \$189. Our consumer surveys show that customers pay from \$229 to \$279 for the average automatic washer. Unfortunately the majority of these appliances in this market normally list from \$289 to \$349," Sayre pointed out.

"The consumer now is conditioned to recognize only the low-end as the true value of a home appliance," he warned.

"Every day thousands are taken out of the appliance market for 10 years," Sayre declared. "Housewives are induced by price to buy \$199 refrigerators when they need the features of a model retailing at \$299. Families buy inexpensive dishwashers and are lost to the dealer as excellent prospects for

luxury dishwashers that they can easily afford."

Still another appliance, he added, the home freezer, will chalk up more than \$500,000,000 in retail sales to cross the half-billion mark for the first time in history.

"And refrigerator sales, now 4% higher than last year, are taking off at retail, assuring that this year's retail refrigerator volume will equal that of last year's 3.5 million mark," Sayre announced.

"Other encouraging signs include electric ranges retail sales, now 7% ahead of last year.

"We don't expect that the tempo of the price battle will slacken but we insist new appliances that alter the traditional habits of the housewife are the firm steps to industry progress. We intend to climb them to equal or better Norge's record \$129 million volume last year," Sayre observed.

Westinghouse Plastic Refrigerator--

(Concluded from Page 1, Col. 2)

One of the models is for horizontal installation and the other for vertical installation. Part of the company's 1957 line, they are designed to be mounted flush with the wall.

The 12-cu. ft. horizontal model has a 9½-cu. ft. refrigerator and a 2½-cu. ft. freezer. It is 60 in. long. The 14-cu. ft. vertical model, which is 65 in. high, has a 10-cu. ft. refrigerator and a 4-cu. ft. freezer, the latter located at the bottom.

Features of the horizontal model reportedly include—in the refrigerator section—two and one-half metal shelves, two storage drawers at the bottom, and a vegetable crisper and storage compartments in the door, and—in the freezer—two full-width shelves, two storage baskets, an ice cube tray shelf, and three shelves in the door.

Yoxsimer explained that the new refrigerators will be of plastic "sandwich" construction—a lamination of styrene sheet, foamed styrene, and polyester reinforced with glass fibers for the outside skin. Haskellite Mfg. Co., Grand Rapids, Mich., produces the sandwich material, called "Haskellite."

It was reported that Haskellite will make the cabinet for Westinghouse out of flat sandwich material in this manner: at proper intervals, corners are mitered out of the flat stock; then the cabinet is folded together, like a paper carton. The corners are then sealed inside with epoxy resin.

Westinghouse decided to use plastic bodies because of cost factors, according to Yoxsimer. Pointing out that the two models are relatively small-volume items (less than 25,000 to 30,000 units a year), he said it would cost three times as much to tool up for the same models in steel.

Yoxsimer said it hadn't been feasible to produce refrigerators with plastic cabinets in the past because of the high price of plastic material. Whereas the price two years ago was more than \$2.50 a square foot, it is now less than half that figure, he stated.

Westinghouse has already made some 50 of the new refrigerators, Yoxsimer reported. He said these units would be put in model houses for display purposes.

The company plans to start regular production of the refrigerators on July 15 at its Columbus, Ohio plant. This will be the first time Westinghouse has made its own built-in refrigerators. Revco, Inc. had manufactured a built-in refrigerator-freezer for Westinghouse but the contract with Revco was canceled some months ago, Yoxsimer said.

In addressing the plastics conference, Yoxsimer said foamed plastics have a big future in the refrigeration industry. However, he noted, technical problems (as elsewhere in the young plastics industry) are slowing down the material's growth.

He stated that some success has been achieved with the use of "foam in place" styrenes and urethanes in refrigerator doors. He also pointed out that rigid plastic foams yield some structural strength, permitting use of thinner wall skins.

Mitchell To Detail New Marketing Plan At Regional Meetings

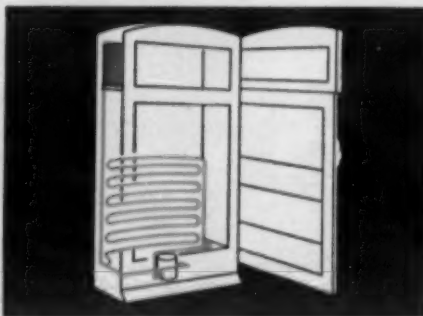
CHICAGO—Mitchell Mfg. Co., Div. of Cory Corp., will present details of a new marketing plan, aimed at expanding sales of air conditioning equipment through the balance of 1956, at a series of regional meetings starting June 29.

The "kickoff" meeting will be in Chicago, June 29, at the Drake hotel. Other meetings scheduled are: New York City (Essex House) July 2; Atlanta (Dinkler Plaza) July 6; Miami (Eden Roc) July 7; Dallas (Statler) July 10; Los Angeles (Beverly Hilton) July 12.

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ROCHESTER
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GENERAL MOTORS
CORPORATION
ROCHESTER N.Y.



NLRB Orders UA Local To Stop Harassing Employer To Buy from Firm with UA Labor

WASHINGTON, D. C.—The National Labor Relations Board has recently ordered Local 562 of the United Association to cease fomenting work stoppages designed to force an employer to quit doing business with suppliers of piping materials who do not employ UA members.

Objective Unlawful Examiner Says

"Such an objective," Trial Examiner Lee J. Best declared, "is unlawful within the meaning of Section 8(b)(4)(A) of the National Labor Relations Act, and it is immaterial whether other objects of the action taken may have been lawful." Best concluded that Local 562 had violated this section by inducing and encouraging employees of the St. Louis Water Co., Woermann Construction Co., and General Installation Co., employers, to engage in a strike or concerted refusal in their employment to work or perform services in order to reach this objective.

Dispute Over Building Water Company Plant

The dispute arose during construction of the water company's South County plant near Fenton, Mo. Woermann was the general contractor. General held a sub-contract to perform the mechanical piping work and installation of equipment at the purification plant. General employed pipefitters from Local 562.

When UA Representative Ed Henry learned that all fabricated piping equipment was being furnished by the Kirkwood Welding Co., he objected.

Kirkwood was employing members of the boilermakers union and Henry insisted that such work was not within the jurisdiction of boilermakers. He said it rightfully belonged to members of the United Association.

Despite company protests that the equipment was purchased through competitive bidding, UA

members refused to handle the piping and put pickets at entrances to the project.

Employees of the water company, Woermann, and General refused to cross the lines until pickets were removed. This was done when the employers took the dispute to the NLRB and U. S. District Court.

The union denied all allegations of unfair labor practices.

Chicago Sales Spurt In Conditioned Autos

CHICAGO—Sales of air conditioned automobiles have spurted sharply in this area this year.

Cadillac Motor Div. of General Motors Corp. reports in May it was selling one sixth of its Chicago area cars with air conditioning units as against only one tenth last year.

Chrysler's most immediate figures—December and January—called for 5% of its New Yorkers and 26% of its Im-

perials to have air conditioning. Lincoln currently is running about 6.3%.

Buick is now selling about 3% of its new cars air conditioned here against only 1/2 of 1% at this time last year. Pontiac and Dodge report they are moving about 5% of conditioned cars.

A Chevrolet spokesman said about 250 air conditioning installations have been made to date in 1956 and the total should reach 500 to 600 for the year. This would compare with only about 100 last year. Less than 1% of Ford volume here is with air conditioners.

Jordon Names Surratt Sales Promotion Mgr.

PHILADELPHIA—James G. Surratt has been appointed sales promotion manager of Jordon Refrigerator Co., Inc., a subsidiary of United States Air Conditioning Corp., it is announced by B. W. Goodman, sales director, domestic goods.

Surratt was zone manager for Deepfreeze Appliance Div., Motor Products Corp., in Chicago from 1953 until that firm ceased operations last March.



TODAY
A half-century of Brunner engineering experience is your assurance of a profitable future... with Brunner Refrigeration Condensing Units.

THE BRUNNER CO., GAINESVILLE, GA.
Brunner Manufacturing Co., Utica, N. Y.
In Canada:
Brunner Corp. (Canada) Ltd., Toronto, Ont.

BRUNNER-METIC Semi-Hermetic Refrigeration Condensing Units available in a full range of sizes from 1/4 H.P. through 3 H.P. Complete line of OPEN-TYPE units from 1/4 H.P. through 100 H.P.



Wholesaler Conditioner, Refrigeration Sales Up 9% over 2-Mo.'55 Period

WASHINGTON, D. C.—Sales of air conditioning and commercial refrigeration equipment distributors in April were up 9% over both March and April, 1955, according to the Bureau of the Census. Their sales for the first four months of the year topped those for the like year-ago period by 8%.

Inventories of the distributors at the end of April were 3% higher than on April 30, 1955, and 5% heavier than at the end of March.

April sales of distributors of electrical appliances, TV and radio sets and parts, and electronic equipment and parts declined 11% compared with March but were 6% higher than in April of last year. For the first four months of 1956, the distributors' sales increased 6% above the corresponding period of 1955.

Refrigerator Sales
By Distributors By States

Summary for First Three Months, 1956
Reports were received from
10 companies

States	Units
Alabama	10,829
Arizona	4,393
Arkansas	6,261
California	67,703
Colorado	6,740
Connecticut	10,690
Delaware	1,461
District of Columbia	7,682
Florida	25,129
Georgia	15,685
Idaho	1,734
Illinois	44,996
Indiana	25,626
Iowa	9,154
Kansas	7,348
Kentucky	9,783
Louisiana	12,093
Maine	3,832
Maryland	10,357
Massachusetts	18,677
Michigan	39,917
Minnesota	11,353
Mississippi	6,412
Missouri	17,272
Montana	1,832
Nebraska	5,316
Nevada	967
New Hampshire	2,041
New Jersey	46,567
New Mexico	2,088
New York	67,554
North Carolina	15,073
North Dakota	1,017
Ohio	41,704
Oklahoma	10,940
Oregon	5,284
Pennsylvania	47,486
Rhode Island	2,986
South Carolina	7,265
South Dakota	1,554
Tennessee	11,679
Texas	35,976
Utah	2,902
Vermont	1,363
Virginia	16,053
Washington	8,428
West Virginia	7,684
Wisconsin	14,047
Wyoming	822
Total United States	722,535

Participating companies: Admiral Corp.; Crosley & Bendix Home Appl. Div.; Avco Mfg. Corp.; Frigidaire Div.; General Motors Corp.; General Electric Co.; Hotpoint Co., Div. of General Electric Co.; Kelvinator Div.; American Motors Corp.; Maytag Co., The (In 3-1-56); Norge Div.; Borg-Warner Corp.; Philco Corp.; Appliance Div.; Westinghouse Electric Corp.

Freezer Sales
By Distributors By States

Summary for First Three Months, 1956
Reports were received from
12 companies

States	Units
Alabama	2,099
Arizona	419
Arkansas	1,506
California	4,114
Colorado	882
Connecticut	878
Delaware	172
District of Columbia	1,048
Florida	3,314
Georgia	3,028
Idaho	899
Illinois	4,717
Indiana	3,385
Iowa	2,298
Kansas	1,605
Kentucky	1,533
Louisiana	2,502
Maine	275
Maryland	1,454
Massachusetts	739
Michigan	8,027
Minnesota	2,591
Mississippi	2,128
Missouri	3,568
Montana	366
Nebraska	1,054
Nevada	133
New Hampshire	81
New Jersey	2,655
New Mexico	787
New York	2,126
North Carolina	2,623
North Dakota	450
Ohio	5,172
Oklahoma	1,115
Oregon	1,067
Pennsylvania	4,747
Rhode Island	60
South Carolina	1,480
South Dakota	576
Tennessee	2,609
Texas	5,717
Utah	335
Vermont	137
Virginia	1,896
Washington	1,435
West Virginia	948
Wisconsin	2,080
Wyoming	154
Total United States	87,491

Participating companies: Admiral Corp.; Crosley & Bendix Home Appl. Div.; Avco Mfg. Co.; Frigidaire Div.; General Motors Corp.; General Electric Co.; Hotpoint Co., Div. of General Electric Co.; Kelvinator Div.; American Motors Corp.; Maytag Co., The; Norge Div.; Borg-Warner Corp.; Philco Corp.; Appliance Div.; Victor Products Corp.; Westinghouse Electric Corp.; Whirlpool-Seeger Corp. (In 3-1-56).

Distributor Orders 850 Westinghouse Div.
Portable Wonderbars Announces Promotions

EVANSVILLE, Ind. — The largest single order ever placed for portable Wonderbars since Servel, Inc. first put the silent electric refrigerettes on the market in 1952 was received recently from the company's New York appliance distributor, John W. Walter, Inc.

The Walter firm ordered five carloads of the furniture-styled refrigerettes, a total of 850 units.

Richard S. Testut, Servel vice president in charge of home appliance sales, said, "The five-carload order reflects greatly increased sales promotion of Wonderbars in the New York metropolitan area, and widely expanded applications of the refrigerettes in homes, institutions, and business places."

MANSFIELD, Ohio — Announcement of promotions and new job assignments in the Westinghouse major appliance division was made here recently by J. J. Anderson, general manager of the division.

W. R. Arbuckle has been named manager of the refrigerator-freezer department, replacing S. J. Stephenson who was recently promoted to manager of the Westinghouse portable appliance division.

F. A. Lowery will replace Arbuckle as manager of the water heater and kitchen utilities department.

Named as new manager of the range department is R. P. Brook, replacing R. M. Beatty who has been promoted to the newly-created position of manager of

utility sales for the company. Arbuckle has been with Westinghouse since 1935, serving in various sales and engineering capacities. He will make his headquarters at the Columbus, Ohio plant where Westinghouse refrigerators and freezers are produced.

Since joining Westinghouse nine years ago, Lowery has held a number of field sales positions and just prior to his new appointment was merchandise manager of kitchen utilities.

Brook has been with Westinghouse since 1939, having had experience in field sales and headquarters sales and advertising operations. Since 1952 he has been merchandising manager of the electric range department.

In his new position as manager of utility sales department, Beatty will work closely with utilities in promoting sales.

Maytag 'Double-Deckers'
Now Available with
Left-Hand Doors

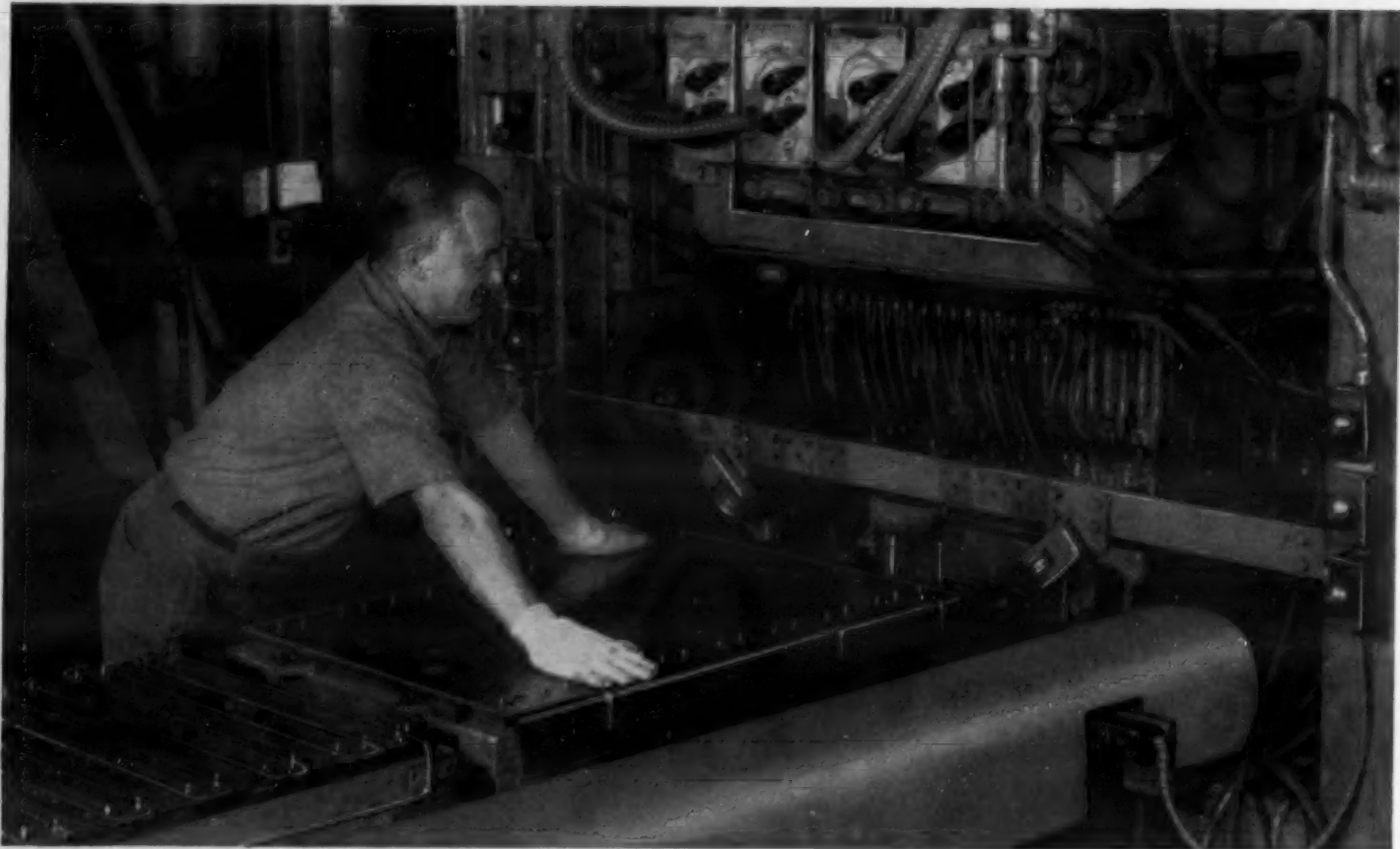
NEWTON, Iowa — The Maytag "Double-Decker" combination refrigerator-freezer is now available with left-hand doors, it was announced recently by Maytag marketing officials.

The left-hand doors are available at slight extra cost on both the 14 and 18-cu. ft. models, designated as the 86RFL and 99RFL.

The larger model Maytag Double-Decker combines a 9.2-cu. ft. refrigerator and an 8.5-cu. ft. freezer in a single appliance only 32 in. wide.

Feature highlights include roll-out shelves, automatic defrosting, nine special food compartments, each with the proper temperature and humidity.

Bundyweld Steel Tubing takes tough



Giant multiple welder welds Bundyweld Steel Tubing to stack condenser plate — 288 welds in a matter of seconds!

Tubing (lower left) is laid on fixture, stack is placed over it, and entire assembly is fed into automatic welder.

SOME OF THE FABRICATION OPERATIONS POSSIBLE WITH BUNDYWELD

 GROOVED	 DOUBLE-FLARED	 COILED	 SWAGED	 KNURLED	 NOTCHED	 BIFURCATED	 PRECISION-GROUND	 SLOTTED
 SHEARED	 FLANGED	 PIERCED	 BEADED	 SOLDERED	 BENT TO SMALLEST RADIUS	 BRAZED	 EXPANDED	 THREADED

BUNDYWELD IS DOUBLE-WALLED FROM A SINGLE STRIP



Bundyweld starts as a single strip of copper-coated steel. Then it's . . .



continuously rolled twice around laterally into a tube of uniform thickness, and



passed through a furnace. Copper coating fuses with steel. Result . . .



Bundyweld, double-walled and brazed through 360° of wall contact.



NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead, and less chance for any leakage.

Emerson Introduces 15-In. Deep 'Slimline' Room Unit In 3 Sizes

JERSEY CITY, N. J.—"The Slimline" room air conditioner, measuring only 15 in. deep with a flush-mount design that eliminates overhang inside or outside the room has been introduced by Emerson Radio and Phonograph Corp., it was announced by Benjamin Abrams, president.

The new slim room air conditioner, Emerson's president declared, is a through the wall unit available in ½, ¾, and 1-hp. sizes.

Church Gets Cooling

HOT SPRINGS, Ark.—First Methodist Church here has been air conditioned at a cost of \$32,212, it was announced.

Sutton 6-Mo. Net Sales Up \$5½ Million over '55

WICHITA, Kan.—Net sales of the O. A. Sutton Corp., Inc. were \$26,194,266 for the six months ended May 31, 1956, which compares very favorably with the \$20,774,255 reported for the comparable six-month period of last year, O. A. Sutton, president, announced recently.

Net sales for the second quarter of the current year were \$15,780,626, as contrasted to \$11,560,788 reported for the corresponding period of 1955.

Net income for the second quarter of the current fiscal year totaled \$780,067, and reached a level of \$1,309,363 for the six months ended May 31, 1956. The comparative net income figures for the 1955 period were \$412,914 and \$799,569, re-

spectively, for the second quarter and the first six months.

Net earnings for the six-month period were equivalent, after preferred dividends, to 90 cents per common share on the 1,400,000 now outstanding, and compare with the 54 cents per share for the first half of 1955, calculated on the same number.

In commenting on the record sales volume, Sutton stated, "competition is very keen, but the record sales for the company have been accompanied by reasonable profits which reflect not only a sound selling approach, but some stabilization of the industry."

Trane Appoints Mays

LA CROSSE, Wis.—The Trane Co. has announced that Gary Mays was appointed sales representative in charge of a new sales sub-office in Albuquerque, N. M.

Lewyt Improves ¾-Ton Built-in-Wall Air Conditioner 8 Ways over '55 Model

LONG ISLAND CITY, N. Y.—The new ¾-ton built-in wall air conditioner from the Lewyt Air Conditioner Corp. here, has eight improvements over the first model introduced a little more than a year ago, state company officials.

It presented its new through-the-wall unit to builders, architects, and dealers at a three-day meeting in the Waldorf-Astoria that included a merchandising clinic for the building and air conditioning trade, it was further noted.

The unit measures 15 in. deep, 14½ in. high, and 32½ in. wide. Important changes include two motors with overload protector and automatic reset, and five adjustable directors to control



INSIDE the room, Lewyt's built-in-wall air conditioner is said to blend with any decor. Unit allows window to be free for usual use, does not block out light.

the flow of air and eliminate drafts.

Also new are an allergy-proof aluminum filter that may be cleaned with water and never has to be replaced, six-bladed aluminum condenser fan and sling ring that assures positive condensate disposal with no dripping, twin double blower scroll, knockouts on shell to allow either right or left side line cord attachment, and improved condenser coil.

Maintained from the previous model are the built-in thermostat, exhaust air door and insect screen, sealing rubber and angle, sloped outside louvers to prevent rain from entering shell, Tecumseh compressor, shell mounting angle, five-position switch, air control knob, flexible line cord, fresh air door and screen, evaporator coil, bottom pan, evaporator drip pan, and shell.

Lewyt has franchised 22 distributors in key markets, with a total of 85 to be appointed.

York Names Kalish Sales Supervisor

NEW YORK CITY—George I. Kalish has been appointed zone sales supervisor for York Corp.'s north Atlantic district, headquartered in New York, it was announced by F. B. Reynolds, district manager-commercial.

Kalish will contact wholesale distributors of York room air conditioners in New York, New Jersey, Rhode Island, and Massachusetts. He will assist them in acquiring and training dealers and will help create sales promotion and dealer training programs.

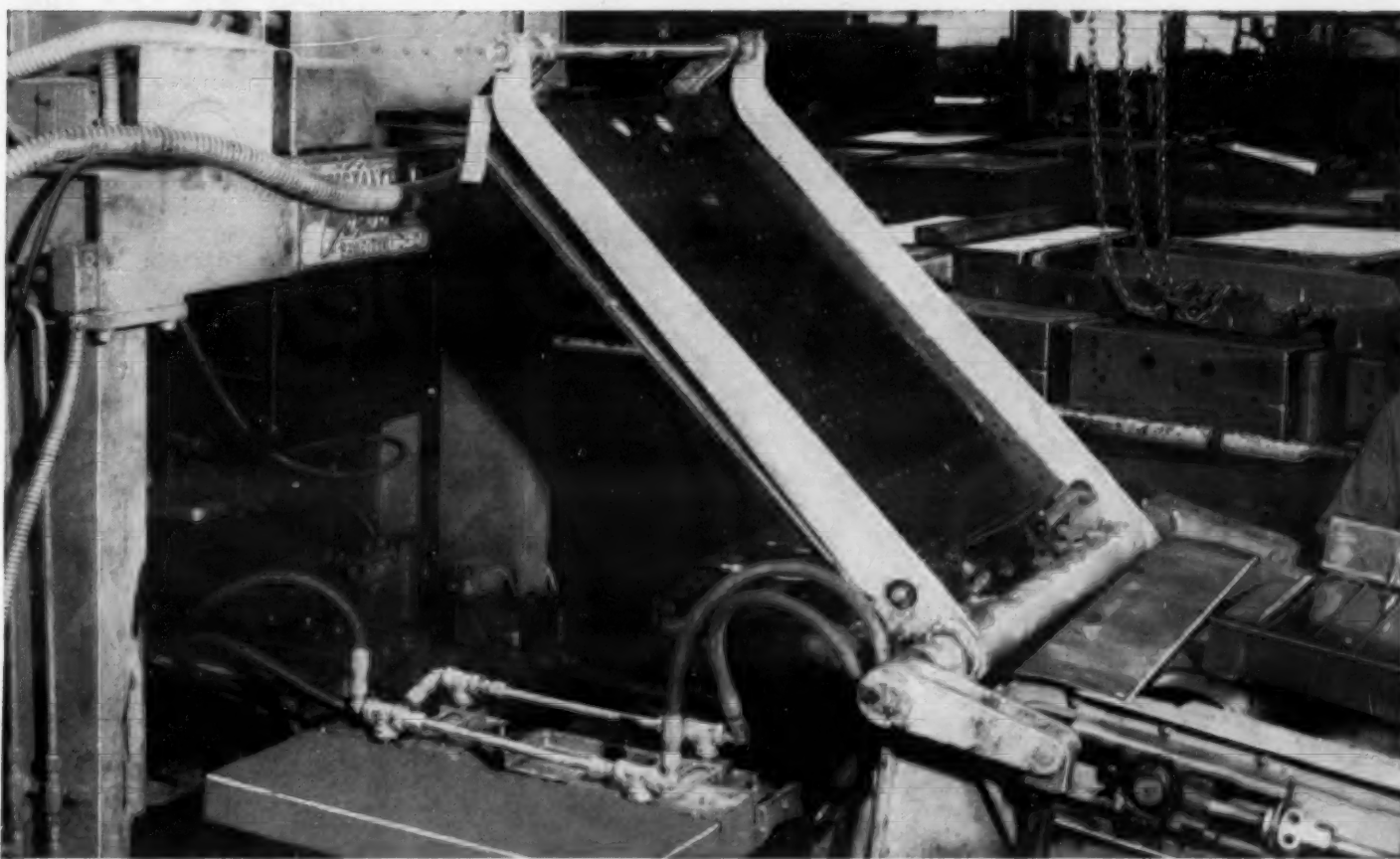
Prior to joining York, Kalish was New York district manager for Kelvinator. Associated with Kelvinator for 10 years, Kalish sold the full line of white goods to dealers in northern New Jersey, New York, and Connecticut.

During the last few years, he was responsible for direct sales to residential building projects and office building.

A Dropped Conditioner or Injured Man can cost you more than a



fabrication operations in stride



Welded assemblies emerge from opposite end of automatic welder. Fixture drops and is returned to starting end.

Automatic stripper (center) lifts stack condenser, and flips it onto steel-roller conveyor ready for next production step.

Whatever your fabrication operation, you never have to coddle the tubing if it's Bundyweld. This rugged, double-walled steel tubing is ductile and easy to work with, yet strong enough to take the roughest processing.

In this Kelvinator stack condenser assembly operation, for example, Bundyweld serpentine coils are dropped into place on a fixture and welded to the steel stack in 288 places . . . in seconds. As it emerges from the automatic welder, the assembly is unceremoniously flipped end over end, landing on a steel-roller conveyor ready for the next fabrication step.

It's no coincidence that the country's largest refrigeration-equipment makers have made Bundyweld the

tubing standard for the entire industry. No other tubing made gives this same combination of advantages.

Bundyweld is leakproof tubing, double-walled from a single steel strip, copper-bonded throughout 360° of wall contact (see detail, at bottom of left page). It is thinner-walled yet stronger; has high thermal conductivity. Bundyweld can be fabricated to virtually any specification; takes all standard protective coatings.

Solve your tubing problems with Bundyweld. And remember, Bundy has unsurpassed fabrication facilities to serve you, plus expert engineering assistance available at any stage of your product design. You get custom packaging, and prompt, on-schedule deliveries.

BUNDY TUBING COMPANY • DETROIT 14, MICHIGAN

BUNDYWELD® TUBING

Bundy Tubing Distributors and Representatives: Cambridge 42, Mass.: Austin-Hastings Co., Inc., 226 Binney St. • Chattanooga 2, Tenn.: Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • Chicago 32, Ill.: Lopham-Hickey Co., 3333 W. 47th Place • Elizabeth, New Jersey: A. B. Murray Co., Inc., Post Office Box 476 • Los Angeles 58, Calif.: Tubasales, 5400 Alcoa Ave. • Philadelphia 3, Penn.: Rutan & Co., 1717 Sansom St. • San Francisco 10, Calif.: Pacific Metals Co., Ltd., 3100 19th St. • Seattle 4, Wash.: Eagle Metals Co., 4755 First Ave., South • Toronto 5, Ontario, Canada: Alloy Metal Sales, Ltd., 181 Fleet St., E. • Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

WORLD'S LARGEST PRODUCER OF SMALL-DIAMETER TUBING • AFFILIATED PLANTS IN AUSTRALIA, ENGLAND, FRANCE, ITALY, AND GERMANY

For more information about products advertised on this page use Information Center, page 26.

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)

judges, criminals, jails, or juvenile delinquents. They do have the world's biggest manufacturer of home freezers; along with thriving furniture, woolens, and specially seasoned meats businesses; plus an atmosphere of contentment unduplicated on this or any other continent.

It's an interesting story.

The Amana Society, which owns 26,000 acres of succulent and beautifully manicured Iowa farmland, along with a number of enterprises (not including Amana Refrigeration, Inc.) is communal in actuality, but far from communistic in theory and operation.

It is a three-million-dollar

corporation, in which most of the residents are stockholders. They are God-fearing, hard-working, brotherly-loving people who have achieved an unusual measure of personal satisfaction combined with group integrity.

They progress and prosper. Yet, they aren't envious or covetous. Hence, no jails or policemen.

Contrary to rumor, the Amana folk aren't religious oddballs. They don't wear long beards nor practice strange rites. As a matter of fact, they are a Lutheran sect.

True, they were persecuted in Germany some 200 years ago, because they refused to believe that God stopped communicating with the human race 2,000 years ago. (To "Dope," this attitude seems sensible.) Their sect held that prophets could appear in any generation at any time.

One such advised them to emigrate to America. Wealthy members of the German congregation financed the trek and bought the 26,000 acres of pristine farmland for the colonists (after a stopover near Buffalo, N. Y.). These landholdings were incorporated, eventually, and adapted to the American system of free enterprise.

George Foerstner, guiding spirit of Amana Refrigeration (freezers and room air conditioners) was born in Amana, and rose to the top through personal merit. He is the living embodiment of Amana's fusion of religious dedication with practical enterprise.

No wonder Amana Refrigeration has survived as an independent producer in a rough league, and grows stronger year by year!

What Is Automation?

Subscribers and friends (we

hope and trust the two nouns are synonymous) frequently ask us to define "automation."

That isn't easy for a fellow who congenitally is a mechanical moron and an engineering idiot. But, here's a try:

Near as we can figure it out, automation is the application of electronic "memory" to the movement, measurement, and machining of materials.

Exactly how it works we don't presume to know. However, it is a fact that electronic relays of vacuum tubes and transistors can "memorize" and repeat any mechanical operation.

Thus they duplicate what a machine tool operator does. He is taught to press this, punch that, and pull this-or-that-over and over again. Electronic "brains" now are supplanting humans on such repetitive tasks.

So, as a German industrialist

might brag: "Look, Ma, no Hanks!"

Let's repeat our possibly amateurish definition of automation:

"Electronic Memorization of the Motion, Measurement, and Machining of Materials."

Any and all subscribers are invited to criticize, augment, or supplant this definition. (At least, it's alliterative.)

Advice to Parents

Dr. Lawrence R. Hafstad, director of research for General Motors Corp., agrees that automation is ushering in a second industrial revolution which will have an answer for nearly every question about man's material needs. ("Dope" claims to have applied this term, "second industrial revolution," to automation months before anyone else did.)

There is only one barrier to this vision of progress, according to Dr. Hafstad: training enough scientists and engineers.

Americans "can either learn mathematics and science—or Russian," he blunts.

Junior Will Love This Stuff

If we can avoid race suicide with the hydrogen bomb, we can solve humanity's biggest problem—overpopulation—by using it to split off parts of other planets, and rocket excess humans over to them, imagines Dr. Fritz Zwicky, California Institute of Technology rocket expert.

Revamping the solar system to create a hundred new planets with a climate like Earth's was proposed recently by this noted astrophysicist, who insisted that this project definitely is within the realm of possibility.

Bumping the planets out of their orbits, and transferring matter and people across space can be accomplished, this scientist dreams out loud, through proper use of atomic explosions.

"The answer to overpopulation and segregation of races that can't seem to get along with each other is virtually within our grasp," Dr. Zwicky declared. "First you have to provide suitable planets to move these people to. The forces we have unleashed with the hydrogen bomb make this possible. We can bomb Jupiter and other planets out of their orbits and into other orbits more to our liking."

"We can transfer great masses from the surfaces of the big planets to the smaller planets and satellites and make them larger," the scientist continues.

"Increasing the size of the moon, for instance, would increase its gravitational pull to a point where it could build up and retain atmosphere similar to that of Earth."

Nuts? Maybe not. Some of us are ready to believe anything nowadays—and with good reason.

Warning

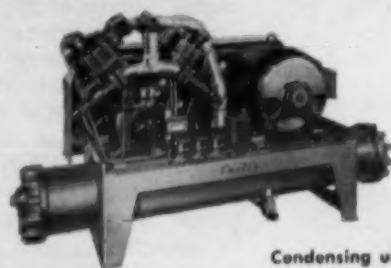
We hear that "The Story of Bridey Murphy" will be televised next Sunday night from 9 to 8 p.m.

Also that it will be made into a movie by 18th Century-Fox.

3
FACTUAL
reasons
why
Curtis
dealers
can make more money—
CONSISTENTLY:



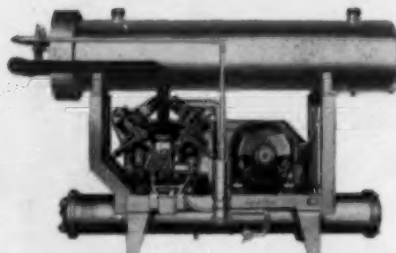
Evaporative Condensers and Cooling Towers up to 100 tons. Air handling units to match.



Condensing units up to 100 tons—F-12 or F-22.



Packaged units in a rainbow of colors—a CURTIS exclusive. 3 through 50 tons.



Packaged Liquid Chillers—7 1/2 to 100 tons—F-12 or F-22. With room console units to provide controlled cooling and heating without duct work.



Packaged Air Cooled Air Conditioning Units—2 through 7 1/2 tons. Residential and Commercial applications.

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our 102 years
of successful manufacturing experience

CM-11

SLANTS on Service

Blower Speed Changes When Adding Cooling

Specific recommendations for changing the blower speed when air-cooled air conditioning units with evaporator sections that use the furnace blower are added to its furnaces have been released by Armstrong Furnace Co.

"The variable pitch motor pulley should take care of the normal variation encountered on properly designed distribution systems, but judgment will have to be used on the unusual jobs," Armstrong advises.

"On 68,000 B.t.u. output (85,000 B.t.u. input) and larger units with 2 tons of air conditioning, increase the blower motor a minimum of one size but use at least a 1/4-hp. motor. Decrease the blower pulley 1-in. in diameter and use the required belt size," the company says.

"The 101G8-70 horizontal furnace with direct drive blower is not recommended for use with air conditioning. Use the 101G8-85 unit with smaller orifices if 85,000 input is not required," Armstrong suggests.

"The 101G6-65 and 101G7-65 models with belt-driven blowers only may be used with 2 tons with the use of 1/4-hp. motors and 5-in. blower pulleys. Do not use the direct drive models.

"On 100,000 B.t.u. through 135,000 B.t.u. output (125,000 to 169,000 B.t.u. input) furnaces with 3 tons of air conditioning increase the motor one size and decrease the blower pulley 1-in. in diameter, changing the belt as required.

"We do not recommend smaller than 80,000 B.t.u. output (100,000 B.t.u. input) units for 3 tons of air conditioning. On 80,000 and 84,000 B.t.u. output (100,000 and 105,000 B.t.u. input) furnaces with 3 tons of air conditioning use 1/3-hp. motors and 6-in. diameter blower pulleys except with the 101G8-105 horizontal furnace where a 5-in. blower pulley should be used," Armstrong says.

"On many installations the c.f.m. requirement for heating and cooling will be virtually the same, such as 80,000 and 84,000 B.t.u. output furnaces with 2 tons of cooling or 112,000 and 120,000 B.t.u. output furnaces with 3 tons of cooling. On these jobs," the company comments, "it may not be necessary to change air quantities winter and summer.

"On others where the c.f.m. required for cooling is greater than for heating, a blower speed change or adjustment of static damper spring and fall will be mandatory for proper results," Armstrong emphasizes.

DuPont Subsidiary In Brazil To Make 'Freon,' Products

WILMINGTON, Del. — Du Pont do Brasil, S.A.-Industrias Quimicas, wholly-owned subsidiary of the U. S. firm of E. I. du Pont de Nemours & Co. (Inc), will begin manufacture of "Freon" refrigerants and aerosol propellants early next year at a new plant near Barra Mansa in the state of Rio de

Janeiro, it was announced here recently.

Although cost of the new facilities was not disclosed, the Brazilian firm said initial production capacity would be in excess of Brazil's requirements for the fluorinated hydrocarbon compounds over the next five years.

The plant, to be constructed on the site of the company's present Goiabal plant on the Presidente Dutra highway, was designed in Brazil around equipment and material available locally.

Milwaukee Supply Deep South Supply Named Wholesaler Moves Manitowoc Distributor

MILWAUKEE — Vincent Refrigeration & Heating Supply Co., authorized wholesaler of Kelvinator condensing units, recently moved to new and larger quarters at 2245 W. Fond du Lac Ave. here, according to Darrell J. Smith, manager.

The firm has stocked up with a vanload of Kelvinator refrigeration units in preparation for peak summer months.

MANITOWOC, Wis. — Manitowoc Equipment Works has announced the appointment of Deep South Supply Co., Atlanta, as full-line distributor.

Deep South Supply will distribute the Manitowoc line of upright freezers and "2-Zone" combination refrigerator-freezers in northern Georgia. Roscoe Walker is president of the supply firm.

Ranco Controls

save time...save customers

(and 85 million installations prove it)



Ranco Exact Replacement Controls—like the Household model shown below—fit perfectly, install quickly to save you valuable service time...perform faultlessly to keep your customers happy and build your reputation for quality service.

And Ranco's record of production proves it.

Over 85 million individual Ranco installations (significantly more than that of any other manufacturer) have demonstrated the excellent performance and overwhelming popularity of Ranco Controls in the refrigeration and air conditioning industries.

So why not make your service jobs easier—and more profitable? Stop first at your Ranco Wholesaler's, let him help you select the right precision Ranco Control for your specific application.

Exact Automatic Defrost Replacement—shown below—accommodates 1952-53 household refrigerators. Model E11-1627 features 33" cap. tube with clip; 4 terminals (Ark-lea); clockwise shaft rotation; 115 volt, 60 cycle; 45 min. time safe period; 50° F termination defrost. Model E11-1509 same except 18" cap. tube; 115 volt, 50 cycle; 45° F termination defrost.

Ranco Inc.

COLUMBUS 1, OHIO



Proper Ranco Control for the job?



You'll find it in the Ranco Replacement Reference (No. 1544). Describes nearly 5,000 individual controls. Buy yours today from your Ranco Wholesaler (not available from factory).

AMINCO

Oil Separators, Suction Throttling Valves, and Flow Control Valves, Mufflers, Etc.

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Our 70th Year

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PRODUCTS CO.**

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DETROIT 3, MICH.

WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

Summer Resort Hotel Takes on New Look and New Cool Feel In Dining Porch and Bar Area

By John O. Sweet & George M. Hanning

KALAMAZOO, Mich. — There's a surprise in store for summer vacationers who re-visit Gull Harbor Inn on Gull Lake, some 15 miles northeast of Kalamazoo.

Instead of a typical old-fashioned resort hotel, they'll see a modernized inn with a glassed-in dining "porch," eye-pleasing main dining room, and attractive bar. But what they'll enjoy most of all, probably, is dining in air conditioned comfort.

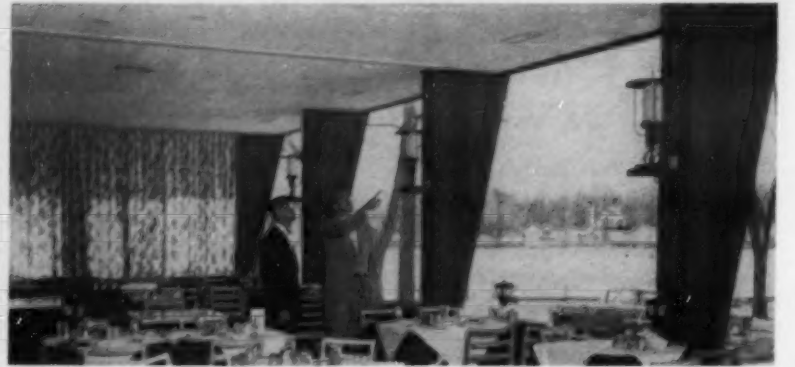
The inn is now in the midst of a modernization program launched shortly after Charles Zeman and Harry and James Harris, Kalamazoo hotel owners, took over. Alterations have



FIVE-HORSEPOWER PACKAGED air conditioner with steam heat coil serves bar room. Note outlets over archways. At bar are Henry Schippers, vice president of Service Appliance Co., and Tony Slevats, Schippers engineer.

been completed on the first floor but work on the upstairs section is still in progress.

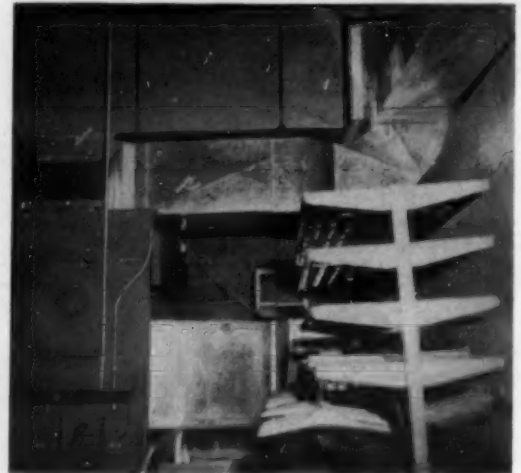
A big part in modernization activities was played by Schippers Service Appliance Co. of Kalamazoo. The firm, managed by Henry Schippers, vice president, installed 25 tons of air conditioning, and also heating,



INSPECTING AIR outlets in porch ceiling are Tony Slevats, Schippers engineer, and Henry Schippers, vice president of the firm.



OPEN CHARCOAL PIT in dining room features built-in ovens, undercounter refrigeration, and infrared lights to keep food orders warm.



TWENTY-TON PACKAGED air conditioner and suspended oil-fired furnace provide cooling and heating for main dining area of Gull Harbor Inn. Note by-pass duct between units. As usual, the owner finds the equipment room a handy spot to store miscellaneous items.

kitchen, and bar equipment. The dining areas of Gull Harbor Inn are air conditioned by a 20-ton Typhoon packaged unit and heated by an oil-fired furnace. (Concluded on next page)



PERFORMANCE means so much - and HAVENS COOLING TOWERS are PERFORMANCE PROVED!



Year in and year out, Havens Cooling Towers give the kind of performance expected but seldom found in a packaged cooling tower. At regular intervals a Havens Tower is pulled from the production line and run through a testing laboratory where air quantity, water quantity and temperature range are accurately measured and checked.

A Havens Tower is easily installed . . . economically maintained—a highly resistant vinyl covering known as HAVENS COAT protects the tower, inside and out, from rust, corrosion, salt air and all water-treating chemicals.

• Also available with Hot Dip Galvanizing after fabrication.



HAVENS 2 TO 10 TON WRAPAROUND—Ideal for light industrial and home use. Furnished with combination motor cover and belt guard as are all Havens Towers.

HAVENS 5 TO 60 TON KNOCK-DOWN—Shipped assembled. May be disassembled in a matter of minutes for installation in inaccessible places.

Only the finest heavy-gauge steel sheets and select all-heart California redwood are used in the construction of Havens Towers.

When you buy a HAVENS TOWER you get these OUTSTANDING FEATURES:

- PATENTED CORROSION-PROOF BEARING ASSEMBLY
- LARGE OIL RESERVOIR
- QUIET OPERATION DUE TO SLOW SPEED FAN
- ELECTRIC MOTORS WITH MOTOR COVER
- OPTIONAL ACCESSORIES

Write Today for Free Literature on the 33 Series Cooling Towers and the New 60 to 200 Ton Verti-Flow Series Towers.

Havens COOLING TOWERS

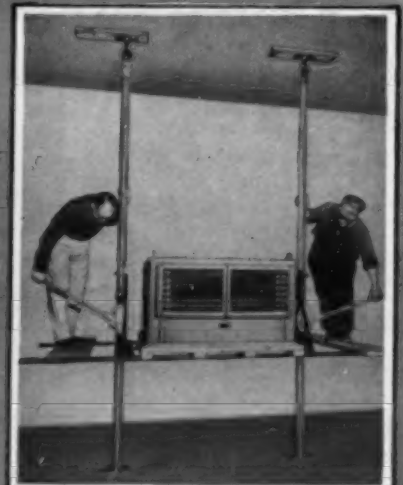
DIVISION OF
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1713 CRYSTAL AVENUE • KANSAS CITY 26, MO.

HERE IS A BIG MONEY SAVER
The New Low Cost

Portable Hastings
"HOIST-IT"

2 MEN
Can Easily and
Safely Raise
200 to 4,000 Lbs.
Up to 18 Feet
in One Hour

Ideal for
All Types of
Equipment



Write for Information and Price
HASTINGS AIR CONTROL, Inc.
3215 Leavenworth St.
OMAHA, NEBR. DEPT. AC-6

Air Conditioned Dining Area--

(Concluded from preceding page)
nace suspended above the cooling unit.

Same Blower for Heating, Cooling

The blower in the air conditioner is used for both cooling and heating. Due to the wide variance in heating and cooling loads, its speed is changed to suit the season, Schippers said. During the cooling cycle, air bypasses the furnace entirely.

Because there was no room for the equipment inside the hotel, Schippers had to construct a cement-block addition at one end of the dining room to house it. Fresh air is brought in through a louver in the equipment room wall.

Conditioned air is distributed to the dining areas through three ducts at ceiling height. Two serve the dining room while the third passes above the picture windows on the porch, dropping air through ceiling grilles.

Low wall air returns are used in both rooms.

5-Hp. Unit Cools Bar

Across the main entrance from the dining room is a brightly refurbished bar, cooled and heated by a 5-hp. Typhoon air conditioner equipped with a steam coil. The unit stands inconspicuously in a far corner next to the bar.

An outlet at the plenum cools the bartenders and bar patrons. A short run of duct feeds air to high wall outlets over a series of archways that split the room, to cool patrons seated at all the tables.

Lake Water Used for Both Air Conditioners

Both the air conditioning units are water cooled. Condenser water is pumped in from the lake, only 150 ft. away, through an underground pipe whose intake is 8 ft. below the surface of the water. After passing through the condenser, the water is returned to the lake.

One of the attractions of the dining room is an open charcoal broiler pit set up near the entrance where all customers will pass by it. Installed in the brick wall of the broiler pit are two domestic-type Westinghouse built-in ovens.

The serving counter in front of the pit contains 20 ft. of undercounter refrigeration, while three infrared lights over the counter keep food orders warm while awaiting delivery by waitresses.

Cleanable Filters Used In Broiler Pit Hood

Above the pit section is an awning-type ventilating hood equipped with cleanable filters. The same type filters are also installed over the broiler pit and adjoining deep-fry pit.

The attractive charcoal pit was designed by Tony Slevats, Schippers' engineer on the project.

New equipment installed in the kitchen by Schippers includes two 30-ft. "Progressive" reach-ins, stainless steel salad tables, steam tables, dishwashing machine, and other items.

Schippers also installed 10 re-

mote condensing units to serve new and existing kitchen equipment, plus 16 ft. of new refrigerated backbar equipment in the bar.

Thus modernized, the Gull Harbor Inn was already filling its normal 185-seat-capacity dining room weeks before the vacation season opened here in full swing.



EXTERIOR VIEW of the modernized Gull Harbor Inn shows room added to house air conditioning and heating equipment. Note fresh air intake louver in wall. At left is veranda converted to modern dining room.

DEALERS
REPORT
SENSATIONAL
RESULTS!

NO OTHER UNIT
LIKE IT!



Double **KOOL**
TWO STAGE COOLING

UP TO
7
TONS
COOLING

with

3
H.P.
COMPRESSOR

Exclusive Features

- ★ Saves 50% on Power and Water—Eliminates Cooling Towers
- ★ Cools with up to 100% Fresh Air even on hottest days
- ★ Guaranteed cooling capacity ratings



10 MODELS

DK-15, 3 to 4 TONS COOLING with 1½-HP COMPRESSOR
DK-30, 5 to 7 TONS COOLING with 3 - HP COMPRESSOR
DK-50, 8 to 11 TONS COOLING with 5 - HP COMPRESSOR
7 Remote Double-Kool Air Handling Units—5 to 60 Tons

Hastings "Double-Kool" is designed for use with water up to 70°. Air is pre-cooled by a four row water coil, then further cooled and dehumidified by a two row Freon coil. Water is RE-USED for condenser cooling.

WRITE FOR COMPLETE INFORMATION TO DEPT. AC-6A

A Complete line of
AIR CONDITIONING UNITS
for Well Water, Chilled Water & DX

Capacities 1 to 60 Tons
100% ALL COPPER SOLDER BONDED COILS
Floor and Suspended Models

WELL WATER COIL UNITS
For Furnaces
SIMPLE—EFFECTIVE—PROFITABLE

OTHER **HASTINGS** PRODUCTS

100% COPPER SOLDER BONDED COILS
Also Available With Aluminum Fins
For Water or Freon

POWER GAS BURNERS—INSHOT AND "V" MODELS

HASTINGS "HOIST-IT"

GAS DUCT HEATERS

GAS UNIT HEATERS

HASTINGS AIR CONTROL, INC.

3215 LEAVENWORTH

Sales Division Hastings Air Conditioning Co., Inc.

OMAHA, NEBR.

EDWARDS**CO-AXIAL CONDENSERS**

The **NEWEST** design in water-cooled refrigerant condensers. Used by major equipment manufacturers because of—
these SELLING ADVANTAGES:

- Use 35% less water
- Cost reduced 30 to 40%
- Stock sizes: ½ to 7½ tons
- No internal joints
- Easy installation
- Many compact shapes

Send for catalog TT-652 TODAY—or call TERHUNE 5-2808

EDWARDS

100 ALEXANDER AVENUE
ENGINEERING CORP. POMPTON PLAINS, NEW JERSEY



A TYPICAL CONFIGURATION—
EFFICIENT, COMPACT, DESIGN

Airtemp Film, 'It's In The Air,' Available Again for Group Use

DAYTON—Schools, churches, clubs, and other groups can once again obtain for free showing the 16-mm. color motion picture film, "It's In The Air."

The non-commercial film is sponsored by Airtemp Div., Chrysler Corp. It relates in an entertaining and non-technical manner a number of facts about the earth's atmosphere and how man, through the use of modern air conditioning equipment, can now—for comfort and health—control important aspects of his atmospheric environment.

The film can be reserved for free showing by contacting Modern Talking Picture Service, Inc., or reservation arrangements can be handled through local Airtemp equipment outlets.

Ad Tells Prospects Initial Cost Only Part of Price Story

NEW YORK CITY—In a newspaper advertisement headed "How To Save Money on Air Conditioning," S. J. O'Brien Sales Corp. here emphasized that "The initial cost is only part of the story!"

"Here's what counts for the long haul," the company said in listing these four questions for the prospective buyer to consider:

"Is the installing dealer an electrical contractor?"

"Does he certify the entire installation?"

"Does he stock the parts to meet any breakdown emergency?"

"Will he give you 24-hour around-the-clock repair service days, nights, Sundays, and holidays?"

"That's why 250,000 accounts in New York are served by the S. J. O'Brien Sales Corp.," the ad stated.

Other copy pointed out that the firm provides air conditioning for homes, apartments, stores, offices, banks, restaurants, bars, hotels, showrooms, and factories with window room conditioners and package floor units from ½ to 25 tons' cooling capacity, and is "Manhattan's authorized dealer for Frigidaire air conditioning."

Shopping Bag Chain Specifies Conditioning For New and Old Stores

LOS ANGELES—T. K. Holmes, president of Key Refrigeration Co., Inc. here, reported recently that one of his installation crews has started another air conditioning installation for Shopping Bag Food Stores, Los Angeles supermarket chain.

The new job is for Shopping Bag's existing store at Upland, Calif. It calls for air handling units manufactured by Drayer-Hanson, Los Angeles—HHV series of ceiling-mounted equipment, and "Perma-Fan" evaporative condenser.

Holmes says this newest installation is part of an elaborate expansion program by Shopping Bag, with the company specifying year-round air conditioning at the markets now in existence, and in all new construction.

Other updated structures utilizing Drayer-Hanson equipment are the La Crescenta and West Arcadia facilities, Holmes says, with equipment already set.

New stores completed and in operation utilizing similar types of D-H equipment include supermarkets at Fullerton, Fontana, Monterey Park, and Palmdale, Calif. All are new additions to the chain within the past two years.

Representing Drayer-Hanson in all transactions was its Los Angeles representative, Air Conditioning Supply Co.

Church To Be Cooled

MEMPHIS—A \$75,000 improvement program moving toward completion at the Raleigh Baptist church, includes air conditioning of the church plant.

If you

1.

FABRICATE
YOUR OWN
PARTS AND
ASSEMBLE

or

2.

BUY YOUR
PARTS AND
ASSEMBLE
THEM

or

3.

FABRICATE
PARTS FOR
OTHERS TO
ASSEMBLE

H&H has

THE
TUBING
IN COILS OR
STRAIGHT
LENGTHS

THE
FABRICATION
SERVICE
THAT YOU
NEED

There is an H & H copper tubing in coils or straight lengths to meet almost any air conditioning parts fabricating need—from evaporator tubes to components for condenser coils and compressor units. And if you prefer to buy any of these parts already fabricated, then be sure you ask about the H & H fabricating services. For more than 25 years H & H has been the headquarters for air conditioning and refrigeration tubing and tubular parts. Made bright, clean and dehydrated, it is plugged, capped or crimped according to your specifications.



Expect the **BEST** brass and copper products from

H & H Tube
AND MANUFACTURING COMPANY

271 N. Forman Avenue, Detroit 17, Michigan • Offices from Coast to Coast



METALFLO



LOCKSEAM



COIL STRIP



AND SEAMLESS TUBING



TUBULAR PARTS

Balancing Air Distribution for Year-Round Conditioning

Separate Cooling Ducts In 1, 2 Story Homes or Delivering More Air, Using Lower Furnace Temperature Rise for Heating Could Be Solution

By C. Dale Mericle

CHICAGO—Problems of balancing the air distribution system in one and two-story residences for year-round air conditioning could be solved by providing separate ducts used only for cooling, suggest two research men of the University of Illinois.

But some engineers believe it would be simpler to design residential systems to deliver the greater quantity of air usually needed for cooling and then employ lower than normal temperature rise through the furnace for winter heating.

This difference of opinion developed in discussion following presentation of two papers at the first technical conference staged by the National Warm Air Heating & Air Conditioning Association which was held here recently.

Experiments In One-Story Dwelling Outlined

Experiments in balancing the year-round system in Research Residence No. 2, a one-story dwelling, at the University of Illinois were outlined by J. R. Wright, research assistant, and engineering calculations for balancing a typical two-story dwelling were reviewed by Donald R. Bahnfleth, research associate.

The one-story house, which has a floor area of 1,040 sq. ft., is equipped with a 70,000 B.t.u. per hour gas furnace and a 2-hp. condensing unit which are connected to a common bonnet.

Design heating load is 31,024 B.t.u. per hour for -10° F. outdoors and 70° F. indoors, while the design cooling load is 22,400 B.t.u. per hour for 95° F. outdoors and 75° F. indoors, Wright explained.

Tests Showed Differences In Air-Flow Ratios

"The calculated loads for each room were approximately the same for both heating and cooling, and therefore the same air flow ratios should be required," Wright said, but differences showed up in actual tests.

"The differences are due to temperature change in the supply ducts, regain through the floor, and the effect of occupancy," he explained.

Farthest Rooms Need More Air To Recover Duct Losses

"Rooms farthest from the unit need greater air during heating to recover duct losses than is required to compensate for heat gain during cooling. Temperature drop in ducts seems to have a greater effect than tempera-

ture rise," Wright declared.

"When a system which had been balanced for cooling was used for heating, the maximum room-to-room temperature difference was approximately 4° F.," he found. "A similar situation existed when a system balanced for heating was used for cooling."

Separate 'Cooling Only' Ducts Thought To Be Most Effective

"It was found that a simple adjustment, such as closing or opening the kitchen diffuser, served to correct the balance to some degree with the extended plenum type of duct, but it is thought that the most effective

method of balancing a system for year-round operation is by the use of separate 'cooling only' ducts," Wright declared.

'Cooling Only' Ducts for Second Floor Suggested

Addition of "cooling only" ducts for the second floor of a two-story residence was also suggested by Bahnfleth as "one solution" to the balance problem in this type of year-round air conditioning application.

Both heat gains and heat losses are greater for the second floor than for the first, Bahnfleth said, and "thus the second story requires a larger air flow the year-round, but percentage-wise requires more

of the total air flow during cooling."

It was explained that the basic calculations were based on an air flow rate of 30 c.f.m. per 1,000 B.t.u. per hour heat gain (360 c.f.m. per ton) during cooling and 10.9 c.f.m. per 1,000 B.t.u. per hour heat loss (at 100° F. temperature rise and duct transmission efficiency of 85%) during heating.

Adding Additional Cooling Outlet Balanced System

"The estimated deficiency in second story air flow during cooling, assuming the first story was satisfied, ranged from 20 to 60 c.f.m., depending upon thermal protection and orientation," Bahnfleth declared. "Hence, adding one additional outlet for cooling on the second story would tend to balance the system for cooling."

Obtaining the greater air flow

needed for summer cooling could be done by increasing the fan speed during summer operation, but this, Bahnfleth said, could raise the fan power consumption by two or three times.

"If a system were to be operated year-round with the same fan speed, it would be necessary to operate with a reduced temperature rise during heating or to impose additional resistance in the system to reduce the air flow rate during heating," he commented.

Although Bahnfleth suggested the "cooling only" ducts for the second floor as a solution, he admitted upon questioning that "satisfactory results" were obtained with continuous fan operation when the system was balanced for cooling and a lower temperature rise through the furnace was used for heating.

("This article is to be reprinted. To place your order, use Information Center coupon.")



ROYAL-AIRE a distinctive conditioner featuring UNARCO "pump-down" control system

It is doubtful that any air conditioner can match the efficiency and beauty of the UNARCO ROYAL-AIRE. This all-new conditioner provides "just right" cooling comfort, adding distinction to any setting.

Oversize cooling coils... accessible, hermetic motor-compressor units... and the exclusive UNARCO "pump-down" control system, which prevents compressor damage... are but a few outstanding features of the ROYAL-AIRE line.

Available in five capacities (3 to 15-ton) the ROYAL-AIRE is balance-engineered! This insures

full cooling capacities and quiet operation under all conditions, producing a pleasurable climate and atmosphere for any size room.

The ROYAL-AIRE is eminently suited to comfort-cool dining rooms, taverns, drug stores, clothing stores, and offices... to cool wherever the ultimate in efficiency and long life is desired. Address the Air Conditioning Division for descriptive literature.

Union Asbestos & Rubber Company
332 So. Michigan Ave., Chicago 4, Ill.

Ask about Dyna-Pac featuring both economy and efficient long life. Another packaged unit by UNARCO (R), also pre-wired and pre-piped for easy installation. 2-, 3-, 5-ton models, water- or air-cooled!



Fast Delivery COILS

TOP QUALITY
EVAPORATOR
CONDENSER

WATER STEAM

1 TO 50 TONS 2 TO 8 ROWS

Tubenfin COIL CO.
8035 HARTFORD, HOUSTON 17, TEXAS

High-Velocity, Electronic Air Conditioning System To Heat, Cool 40-Story Hotel by 2½ Miles of Duct

NEW YORK CITY—What is claimed to be the first complete, high-velocity electronic air conditioning system in a hotel is being installed in the Barbizon Plaza here, it was announced by Jacob Schroeder, president of the hotel.

Costing over a million dollars, the new cooling-heating system is the result of electronic research and development work by the Trane Co., Barber-Coleman Co., Minneapolis-Honeywell Regulator Co., and Westinghouse Electric Corp.

Fresh, outside air will be drawn in at the top of the 40-story building. Here it will be filtered, dehumidified, chilled to 46°, and pumped rapidly down two main insulated 36-in. ducts.

From here the air will be slowed down by diffusers and

fed noiselessly to 1,100 guest rooms through two and half miles of small ducts. Stale air will be emptied outside the building.

No Motors or Noise-Producers In Any Guest Room

There will be no motors or noise-producing apparatus in any guest room, each of which will contain a thermostat for individual temperature control, Schroeder said.

Heart of the chilling operation consists of two 31,000-lb. Trane "CenTraVacs," which will be hoisted to the building's top floor, where they will be installed. These are automatic, hermetically sealed, centrifugal compressors having 300 tons cooling capacity each.

The weight of these units is

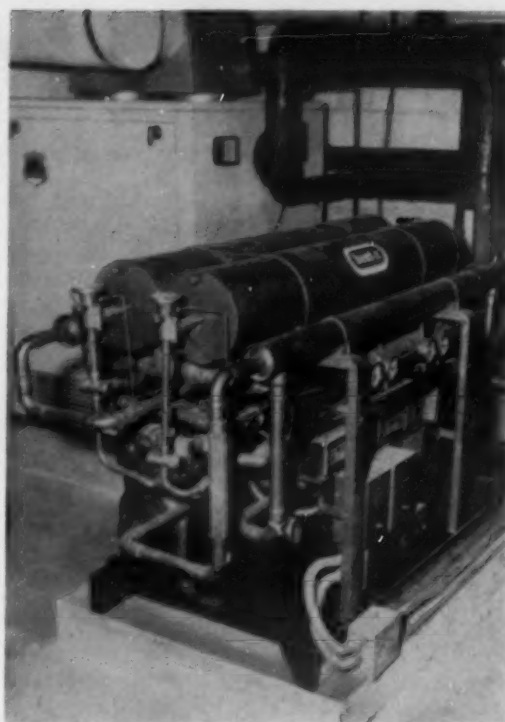
light for equipment of the type and capacity, and no structural strengthening of the building will be necessary, Schroeder said.

Chilling will be effected by constant recirculation of water mixed with anti-freeze and kept to 35° F.

To Maintain Relative Humidity at 40%

Relative humidity of the air will be kept at 40%, according to Schroeder. He said that the intake of air entirely from the outside of the building at the top will provide completely fresh air of maximum cleanliness for each room. He added that the system was also designed to provide circulation of fresh, heated air in winter.

Jaros, Baum & Bolles was consulting engineer in collaboration with Abbott, Lester & Co., Inc., who is doing the installation work.



ENTIRE system for air conditioning and heating the 20-unit El Rancho Motel in Hot Springs, Ark. is located in this small equipment room. Heat-X "PC" package chiller provides chilled water for entire air conditioning system.

20-Unit Motel Heated, Cooled by Centrally-Set 15-Ton Package Chiller

HOT SPRINGS, Ark.—Both heating and cooling are provided by a single, centrally-located system at El Rancho Motel here.

James Butler, owner of the 20-unit motel, reports that the year-round air conditioning system is economical, saves room space, and is less vulnerable to tampering.

Heating or cooling is accomplished by the circulation of hot or chilled water from a central source through individual room units.

Chiller for the system is a Heat-X "PC" 1500 package chiller unit with patented "Inner-Fin" design, that provides 15 tons cooling capacity. Non-ferrous construction of all water passages eliminates danger of corrosion and helps assure long-term trouble-free operation of the system.

Tom Stough, manager of the Southern Air Conditioning and Refrigeration Co. of Hot Springs, installing contractor, explains that such a system offers many advantages to motel owners.

"We've installed over 600 tons of chilled water systems within the past year," he reported. "The Heat-X units are easy to install, occupy little space, and are light in weight. Even more important from an owner's viewpoint is the operating economy of the units."

GET PEAK PERFORMANCE

THRU and THRU

buy Sporlan Catch-Alls

The Perfect Filter-Drier

with the Famous Molded Porous Core

Yes, it's easy to see why only Sporlan Catch-Alls can offer you Thru and Thru Peak Performance.

One look at these famous molded porous Catch-All cores, with their huge tri-dimensional filtering areas, and you know why Sporlan offers Thru and Thru Filtering... instead of just ordinary straining.

You can see, too, why they cannot powder... cannot pack, and why the refrigerant cannot by-pass or channel around them.

Being molded of minute particles of a highly efficient desiccant, double activated, then immediately sealed... they dry the refrigerant down to an extremely low end point, a point so low that any remaining moisture is absolutely harmless.

Harmful corrosive acids found in most systems today are adsorbed and retained within the cores themselves.

So... if you want perfectly clean, perfectly dry refrigeration and air conditioning systems... Buy Sporlan Catch-Alls, the Perfect Filter-Drier, and Get Peak Performance Thru and Thru.

Ask your wholesaler for the Sporlan Bulletin 40-10 today! You'll find Catch-Alls available in progressive sizes from 3 to 192 Cu. In. in flare or sweat connections.



SPORLAN



VALVE COMPANY

EXPORT DEPARTMENT

89 BROAD STREET

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7525 SUSSEX AVENUE

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FOR DEHYDRATING AND TESTING ...

BEACH-RUSS
Portable
VACUUM PUMPS



Model O Single-Stage Pump—1 mm. vacuum, blank flange, 1 CFM, ¼ HP, weight 48 lbs.

Model A Two-Stage Pump—1/10 mm. vacuum, blank flange, 2.5 CFM, ½ HP, weight 80 lbs.

Write for prices and data.

BEACH-RUSS COMPANY

52 CHURCH ST. • NEW YORK 7, N. Y.

Milk Tanks--

(Concluded from Page 1)

milk tanks in use in the 18-month period.

Wisconsin, which had 1,500 farm tanks installed on July 1, 1954 as compared with 3,464 at the first of this year, and Minnesota, which had 600 tanks installed on the earlier date and 2,500 on the later date, led all other states in volume of increase.

Kentucky Shows Increase Of 20,000%

So far as rate of increase goes, Kentucky, which had one farm tank in operation on the earlier date, and 200 on the later, led all other states with a rate increase figured at 20,000%!

If it were possible to figure rates of increase on the basis of some data collected, North Carolina's rate would even exceed Kentucky's; for on Jan. 1, 1956, there were 250 tanks in operation in North Carolina, whereas there had been none, apparently, in operation 18 months earlier.

Figures Given

Complete state-by-state figures, released by DISA and NADEM to their respective memberships in May, are as follows:

	July 1, 1954	Jan. 1, 1956	Increase
Alabama	6	60	57
Arizona	400	425	25
Arkansas	0	35	35
California	3,250	4,139	889
Colorado	75	185	110
Connecticut	144	642	498
Delaware	30	35	5
Florida	210	650	440
Georgia	65	306	331
Idaho	86	225	139
Illinois	600	1,500	900
Indiana	250	700	450
Iowa	375	1,010	635
Kansas	100	400	300
Kentucky	1	200	199
Louisiana	1	45	44
Maine	101	600	499
Maryland	320	723	403
Massachusetts	150	409	319
Michigan	250	1,000	750
Minnesota	600	2,500	1,900
Mississippi	16	27	11
Missouri	17	48	31
Montana	65	80	15
Nebraska	2	140	138
Nevada	84	106	22
New Hampshire	43	161	118
New Jersey	205	588	383
New Mexico	10	45	35
New York	495	850	355
North Carolina	0	250	250
North Dakota	0	95	95
Ohio	252	787	535
Oklahoma	16	175	159
Oregon	480	655	175
Pennsylvania	420	1,200	780
Rhode Island	0	92	92
South Carolina	99	184	85
South Dakota	20	500	480
Tennessee	110	150	40
Texas	84	451	367
Utah	145	228	83
Vermont	78	418	340
Virginia	200	750	550
Washington	2,000	2,900	900
West Virginia	2	11	9
Wisconsin	1,500	3,464	1,964
Wyoming	4	36	32
U. S. Total	13,358	30,330	16,972
Percentage of Increase			127%

Ad Campaign on For Antibiotic To Extend Chilled Poultry Life

NEW YORK CITY—Newspaper advertising has begun for the new "Acronized" method of poultry processing to maintain birds' freshness that was reported in the April 23 issue of AIR CONDITIONING & REFRIGERATION NEWS.

Recently the American Cynamid Co. here, after having its antibiotic cleared by the government for use in maintaining poultry freshness, began an advertising campaign to acquaint interested persons and the general public with this new process.

Acronized retards spoilage while maintaining taste, color, and freshness of a fresh-killed bird and assists in extending refrigerated life of poultry.

Liquid Nitrogen Freezing at -120° C. May Produce Long-Term Blood Storage

NIAGARA FALLS, Ont., Can.—Experiments in the rapid, deep freezing of whole blood, now being carried on at the Naval Medical Research Institute, Bethesda, Md., may produce a method for long-term storage of whole blood and overcome the current problem of preserving the life-saving fluid for catastrophes.

This encouraging report was made by Dr. Ross T. McIntire, Chicago, executive director of the International College of Surgeons.

Addressing the regional meeting of the U. S. and Canadian sections of the college held in the Sheraton-Brock hotel the former White House physician to President Franklin D. Roosevelt noted that as of now whole blood can be stored normally

not longer than 21 days before losing its value.

Research being done at the Naval Institute by Dr. Harold T. Meryman involves a rapid freezing of whole blood which has been tagged radio-active, he said. The experiments, carried on through use of liquid nitrogen at -120° C., well might lead to a technique which would preserve the blood for years, Dr. McIntire added.

"If this rapid freezing method proves successful, blood then can be stored for the future years," he said. "When the time comes when we may need 10 million pints of blood in hours, this store will not only be practical but it will be made available and can be stored in strategic points throughout the land."

Marsh Names Zurick Ind. Representative

SKOKIE, Ill.—Thomas Zurick has been appointed sales representative for Marsh Instrument Co. in Indiana.



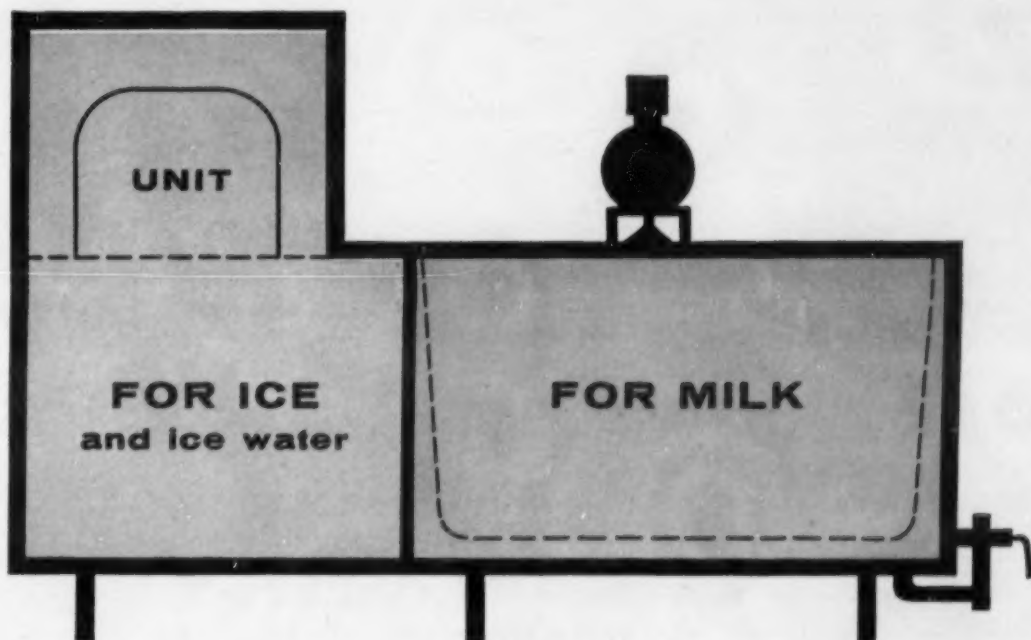
T. Zurick

He will direct his efforts toward original equipment manufacturers and to refrigeration wholesalers. Zurick has been associated with the Marsh sales staff since 1954.

Harvey Hill Names Carter

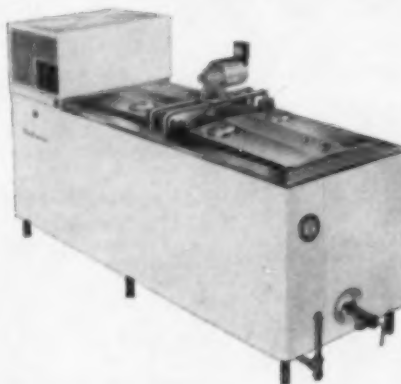
FRESNO, Calif.—Roy F. Carter, formerly associated with an air conditioning manufacturing firm in Indiana, has been named western division sales manager for Harvey Hill, Inc., of St. Louis, manufacturer of air conditioning equipment.

WILSON BULK MILK COOLERS LEAD THE WAY IN THIS EXCITING, PROFITABLE NEW FIELD



SHOW THIS...YOU CAN'T MISS with Wilson's exclusive cooling feature!

(made possible by the famous Drop-in Unit)



Standard capacities from 100 to 700 gallons.

Get on the bulk milk cooler bandwagon... you can go places with a Wilson franchise. Thousands of dairy farmers are switching to bulk milk cooling each year. And only Wilson bulk milk coolers give them isolated ice bank cooling for greatest milk protection, easiest maintenance, lowest cost.

You can see the simplicity of Wilson bulk cooler operation in the diagram above. Ice builds up in a compartment completely separated from the milk tank. What does this mean to the dairy farmer? More effective cooling... safer

cooling... no chance of milk freezing or tank damage... easier maintenance. What does it mean to you? First of all, the strongest sales features in the entire bulk cooler field. But that's not all. Thanks to Wilson's famous Drop-in Unit, the refrigeration system can be taken out and replaced as an assembly. Installation costs are low, maintenance calls are quick and efficient.

Farmer-customers see it too when you utilize Wilson's heavy advertising, sales helps, direct mail. Find out how you can profit with Wilson. Mail coupon today.

SUPER-FLO FILTER-DRIER



MOLDED REMCAL DRYING FIBERGLAS DEPTH FILTERING

Check Super-Flo's amazing low price, for both original equipment and replacement, against ordinary driers which do not have Super-Flo molded drying elements, massive fiberglass depth filters and spun-end copper shells. Available to the trade through wholesalers everywhere.

REMCO INCORPORATED ZELIENOPLE, PA.

WILSON

BULK MILK COOLERS

WILSON REFRIGERATION, INC.

Smyrna, Delaware

A Division of Tyler Refrigeration Corporation

Wilson Refrigeration, Inc., Department R-3, Smyrna, Delaware.
Rush information on Wilson's NEW Model Bulk Coolers.

Name _____

Company _____

Address _____

Post Office _____

by
**Jimmy
Hatlo**



(Concluded from page 1)

Door shelves which incorporate interesting gold decorative effect.

The plastics industry itself will need to come up with answers to the technical problems (costs, largely) which now keep this dream from becoming a reality. Once they do, they'll have an enormously expanded market from which to profit. An immediate

City Zone State



**stop hunting
for smarter, newer,
refrigerator
selling ideas!**

Just use these New Inland
Ice Slice Trays that give refrigerators
that extra selling appeal!

Everybody likes color: women especially. And a woman will be
delighted when a sales person shows her your refrigerator
equipped with the new Inland Ice Slice Trays . . . in color!
There are so many more slices to a tray . . . so many food
preparation uses for them . . . and they cool so much faster.
Yes, when women see Ice Slice Trays . . . they want them!

Husbands, too, like slices of clear, clean ice . . . and they like
color as much as women. With Inland Ice Slice Trays . . .
your refrigerator will have a new sales appeal you can
demonstrate. So, be sure your refrigerators are equipped with
nationally advertised Inland Ice Slice Trays with the
"Magic Touch" lever that people look for!

NOW!
new-sized
ice slices!



**COOL DRINKS
FASTER . . .
CHILL SALADS,
APPETIZERS
AND DESSERTS**

*quick as
a wink!*

Yes, this is a brand new tray that gives a sparkling avalanche of ice slices—
shaped just right for faster cooling of drinks—for crushing or serving chilled
appetizers, salads and desserts. Just flip the "Magic Touch" lever; these faster-
cooling cubes are instantly freed, ready for use.

So replace those worn out trays in your present refrigerator with new Inland
Trays. In 4 gay colors, gold, blue, bronze and natural aluminum—one just
right for you . . . at your dealer's.

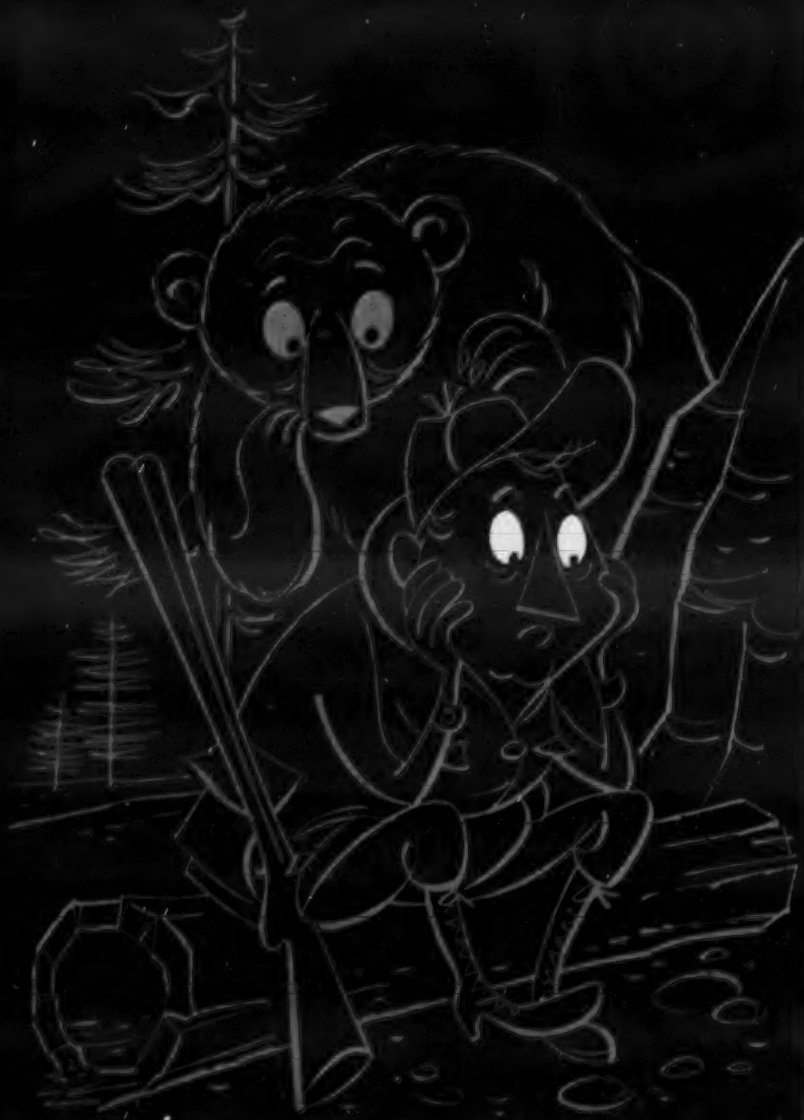
Be sure your new refrigerator is equipped with Inland "Magic Touch" Ice
Slice Trays. Ask your dealer for them.

INLAND "Magic Touch"

ICE SLICE TRAY



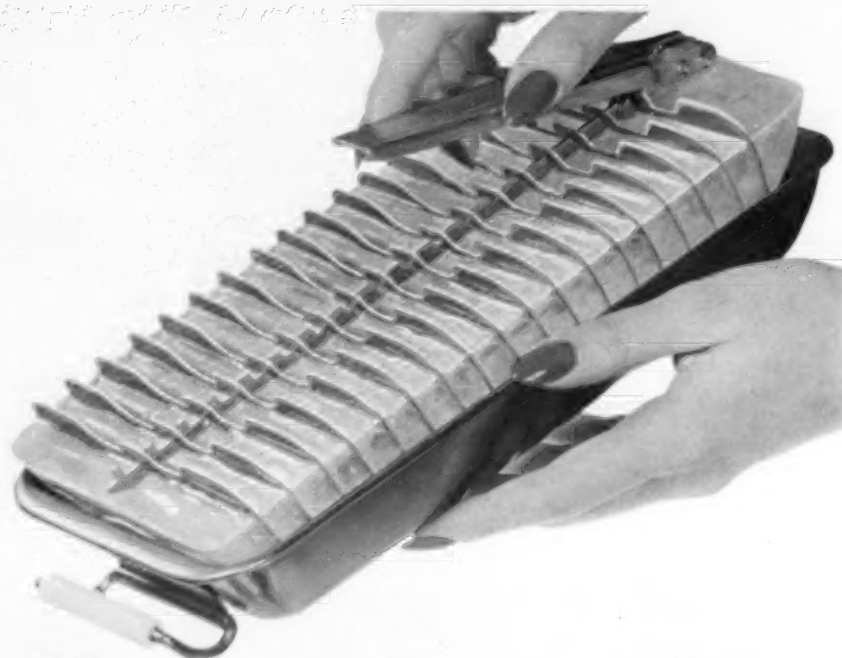
INLAND MANUFACTURING DIVISION
General Motors Corporation, Dayton, Ohio



**we're looking for
good refrigerator
prospects
for you!**

**Inland's full color
National Advertising is meant
to bring them in . . . and it does!**

Beautiful 4-color national advertisements such as these will be seen and read by millions of people during the peak selling season, in the Saturday Evening Post and Ladies' Home Journal—they will tell owners of older refrigerators what they are missing by not replacing their inconvenient trays with the new modern Inland Ice Slice Trays. 50 million ice cube trays in use today in refrigerators more than 5 years old need replacing. Every purchaser is a prospect for a new refrigerator! So stock up on Inland Ice Slice Trays. Order them from the refrigerator manufacturers **now!** Display 'em, you'll sell 'em.



This new tray makes Ice Slices!

**Sized just right to cool drinks faster . . . chill
appetizers, salads, desserts . . . in a hurry!**



Just an easy flip of the "Magic Touch" lever and these sparkling ice slices are instantly freed and ready for use. Yes, and the ice slices are shaped just right for really fast cooling of drinks . . . for chilling desserts, salads, appetizers . . . and for crushing.

So replace those worn out trays in your present refrigerator with smart, new Inland "Magic Touch" Ice Slice Trays. In 4 gay colors, gold, blue, bronze and natural aluminum—one just right for you . . . at your dealer's.

Be sure your new refrigerator is equipped with Inland "Magic Touch" Ice Slice Trays. Ask your dealer for them.

INLAND "Magic Touch"

ICE SLICE TRAY



INLAND MANUFACTURING DIVISION
General Motors Corporation, Dayton, Ohio

Duct Heat Gain

It Can Be Reduced with Adequate Insulation Carefully Installed, Texas Home Study Shows

By C. Dale Mericle

CHICAGO—Heat gain in improperly insulated ducts, especially those in attics, can sharply reduce the useful cooling output of a residential air conditioning system, C. W. "Bill" Nessell reminded the National Warm Air Heating and Air Conditioning Association at its first technical conference held here recently.

Studies of some 30 air conditioned homes in Texas were reviewed by Nessell, who is chairman of the group's Field Investigation Committee and associated with Minneapolis-Honeywell Regulator Co.

Twelve of these ran ducts through the attic; 12 employed dropped-ceiling duct installations in hallways, and the remaining included slab and crawl space distribution systems, Nessell explained.

Attic Ducts Showed Greatest Heat Gain

"Largest heat gains in ducts occurred with those located in the attic, but this was directly related to the amount of insulation on the ducts and the care in its application," he said.

Duct heat gains in these homes ranged from a low of 1,200 B.t.u. per hour to a high of 5,900 B.t.u. per hour, Nessell disclosed. The best employed 1½-in. thick insulation; the worst had only ½-in. insulation.

"Sloppy" application and in some cases actual omission of insulation for a considerable length of duct was a basic cause of excessive heat gain, he emphasized. In some instances this meant that one-fourth of the system's capacity was wasted in trying to cool the attic, he said.

Installer's Care Is Vital to Success

"Heat gain goes down as the installer's care goes up," he remarked.

In systems where the condensing unit was also installed in the attic, he noted a considerable rise in temperature through the return air duct if it was not insulated.

Much less duct heat gain was found in the 12 systems employing ceiling units and ducts installed in dropped ceilings. In these the heat gain ranged from 1,100 B.t.u. per hour to 1,715 B.t.u. per hour, he said.

"These ducts are located in the conditioned space itself, and so some of this heat gain was actually useful cooling of the space, but some of the gain came from the attic."

Few Slab Installations Included In Study

Too few slab installations were studied to develop conclusive data, it was admitted, but it was found that there can be considerable heat transmission through the slab if the outside surface edges are not properly insulated, he indicated.

Temperature gains of ducts imbedded in slabs averaged as high as 10° F., "but we can't state now that all this duct gain is lost cooling effect," Nessell commented. "The floor over

the ducts was cool, so I believe there is no doubt a certain amount of radiant cooling taking place."

Crawl Space Findings

Examination of crawl space systems was likewise limited. Nessell, however, observed that although temperature of the air leaving the registers was higher in the system using the entire crawl space as a supply plenum than in those with ducts in the crawl space, the costs of operating the duct plenum system were not significantly higher.

"There must be some radiant cooling effect through the floor," he said.



DAYTON 1, OHIO

means

Air Conditioning —

Chrysler means Quality.

... SO HALSTEAD & MITCHELL ENGINEERS DESIGNED

AIR-COOLED CONDENSERS FOR SIMPLER MULTIPLE CIRCUITING

Selecting circuits and manifolding when connecting several air conditioning and refrigeration units to a single remote air-cooled condenser can be expensive unless the air-cooled condenser is designed for the simplicity that means low labor costs.

That's why it's real news that Halstead & Mitchell engineers have devised a remote air-cooled condenser especially for extra-easy multi-circuiting. As costs come down, your sales go up.

The Halstead & Mitchell Air-Cooled Condenser has been designed with several *no-cost* extras like this easier multiple circuiting. Only Halstead & Mitchell offers, for instance, "Turbu-Flo"® finned surface

which provides added heat transfer to give you *extra-safe* capacity ratings. No need to worry when you recommend H & M.

There are extra years of working life, too, for Halstead & Mitchell's superiority in cooling tower steel protection has been used to keep air-cooled condensers free from rusting. The tubing assembly is self-reinforcing, locking out vibration before it starts.

Lifetime ball bearings and deep-pitch, slow-speed fans make for quiet operation. It's the assured operation you look for when you select Halstead & Mitchell, manufacturer of the industry's broadest line of water-saving devices for air conditioning and refrigeration.

Write for Bulletin AC-100

HALSTEAD & MITCHELL • BESSEMER BLDG. • PITTSBURGH 22, PA.



For more information about products advertised on this page use Information Center, page 26.

Warren Offers 2 Dairy Cases with 3 Refrigerated, 3-Position Shelves



NEW 8 and 12-ft. refrigerated shelves in cases for dairy merchandising have been introduced by Warren Co. Each case has three sectional shelves, adjustable to three positions. The 8-ft. dairy case, XD-8, has a refrigerated capacity of 45 cu. ft., while the XD-12's refrigerated area is 67.5 cu. ft.

ATLANTA—New refrigerated shelves in 8 and 12-ft. lengths for dairy merchandising were announced recently by the Warren Co. here.

Each case has three sectional shelves in the refrigerated area. Each shelf is adjustable to three positions. The two upper shelves are finished in white porcelain, while the bottom steel wire shelf is finished in baked enamel.

Multi-Fin Coil, Mechanical Circulators Are Features

Each case is equipped with a multi-finned coil on the back wall at the bottom and with two mechanical circulators. A natural drain is used.

The 8-ft. case, called the XD-8, has a refrigerated capacity of 45 cu. ft. Bottom deck has 17 sq. ft. of display area, first shelf 12.3 sq. ft., second shelf 6.7 sq. ft., and top of case (dry) 12 sq. ft.

The 12-ft. XD-12 has a refrigerated area of 67.5 sq. ft. Bottom deck has a display area of 25.5 sq. ft., first shelf 18.5 sq. ft., second shelf 10 sq. ft., and top 18 sq. ft.

Case Dimensions

All cases are 58 in. high, 44 in. deep at bottom, and 18¾ in. deep at the top. Bottom shelf is 26 in. deep, first shelf 18½ in., and second shelf 10 in. Two end sections are 6-in. thick.

A 2-in. tag molding is at the front of all four display areas. It accommodates 1, 1¼, 1½, and 2-in. tags. Fluorescent lights illuminate the three refrigerated display areas.

Interior, front, and top are covered with white baked porcelain enamel. Ends and back are finished in baked enamel. End molding and bumper rail are rigidized stainless steel. Front trim is plain stainless.

A ¾-in. plate glass guard 2½ in. wide at the front of the bottom compartment is recommended for stores not air conditioned to protect against drafts. This is available at extra charge.

New Firm Formed In Milwaukee

MILWAUKEE—Mlaker Heating & Air Conditioning, Inc. has been formed in Milwaukee with an authorized capital stock of 2,500 shares of common at par value of \$10 per share.

Incorporation papers were signed by Milan Mlaker, 2836 N. Teutonia Ave., here.

400 To Exhibit at Dairy Industries Show Oct. 28-Nov. 3 In Atlantic City

NEW YORK CITY—The 20th Dairy Industries Exposition and meetings of major dairy industrial bodies will be held during the week of Oct. 28-Nov. 3 in Atlantic City, it was announced here recently.

SCHEDULE

The exposition will be held in Convention Hall Oct. 29-Nov. 3. Meetings have been scheduled as follows:

Dairy Industries Society, International—10th annual meeting, Oct. 28, Hotel Traymore.

International Association of Ice Cream Manufacturers—52nd annual convention, Oct. 29-31, Shelburne and Dennis hotels, headquarters.

Milk Industry Foundation—

49th annual convention, Oct. 31-Nov. 2, Chalfonte-Haddon Hall hotels.

National Association of Retail Ice Cream Manufacturers—annual convention, Nov. 1-3, Shelburne and Dennis hotels.

WRITE HOUSING BUREAU FOR HOTEL ROOMS

A spokesman for all convening associations announced that all hotel reservations will be handled by the Atlantic City Housing Bureau. He said that no hotel in Atlantic City will accept reservations for conventions-and-exposition week except from this housing bureau.

Therefore, persons planning to attend were cautioned not to write direct to hotels for

reservations but to make use of official hotel reservation forms from their own associations.

"This will assure that Atlantic City's hotel facilities may be shared equitably by all visitors during the period Oct. 28-Nov. 3, whether affiliated with a national association or not," it was pointed out.

ABOUT 400 FIRMS WILL EXHIBIT

The Dairy Industries Exposition, sponsored by Dairy Industries Supply Association, will feature displays by approximately 400 dairy industrial supply and equipment firms.

"With exhibits featuring every conceivable necessity for processing milk into any form, the show represents an effort to extend frontiers in a rapidly developing industry by offering newest knowledge of technology and invention to processors," the announcement said.



NO

Start the the greatest

Pushbutton Shopping

Displays Revolving Around Seated Shopper, Moving Sidewalks, Electronic Checkouts, Motorized Carts Seen Replacing Today's Equipment

PHILADELPHIA — A self-service, pushbutton operating store with moving aisles, motorized shopping carts, and drive-in service was visualized at the recent annual convention of the Advertising Federation of America here.

E. B. Weiss, director of merchandising for Doyle Dane Bernbeck, New York City advertising agency, said that in a few years self-service shopping will be extended to nearly all categories of merchandise.

In some stores, he envisions, the housewife will take a comfortable seat while merchandise is revolved in front of her. When she sees something she wants,

she'll push a button and the sale will be electronically recorded.

Instead of being added up by store checkout personnel, items purchased will be tabulated and recorded by sensing devices, Weiss asserted. Merchandise electronically marked in code will make this possible, he noted.

Moving sidewalks will bring shoppers from parking lots inside, the merchandising expert continued.

And for those stores not using the revolving technique, there will be moving aisles and motorized carts.

For shoppers who wish to re-

main in their cars, Weiss believes there will be huge electronic bulletin boards outside listing goods on sale. Remote controls to the automobiles will allow shoppers to make and record purchases.

VENDING MACHINES WILL RUN AROUND THE CLOCK

Vending machines running 24 hours daily will be used much more widely than at present, the assembled admen were told. And the electronic recording of telephoned shopping orders will be provided by almost all stores of the future.

Weiss declared some of these techniques are already on the

drawing boards and others are only a year or two away.

Although there is considerable opposition to self-service in "tradition bound" stores, he said the principle already is in general use.

"Don't fight it," Weiss advised. "Self-service is popular, efficient, and the only answer to mass volume selling."

IMPORTANCE OF PACKAGING GROWING

Another of the four speakers who addressed the convention on "How Selling Patterns Are Changing," Frank Gianninoto of F. Gianninoto & Associates, New York City, emphasized to the advertising group the increasing importance of product packaging in present-day selling.

"When more people lived on a lower economic level, in the '30's for example, price was a primary factor in the amount

of demand of a product," he averred. "The lower the price usually, the greater is the demand."

"But today we have an enormous new middle class market spending nearly all its income. At the same time, there are more and more non-essential things to spend it on."

"Packaging, the 'silent salesman,' is not only helping the buyer decide what he wants to buy, it often makes him buy it, whether he needs it or not," he concluded.

In Newark

25 Milk Vending Licenses Refused On Zoning Grounds

NEWARK, N. J.—The first 25 applications for milk vending machine licenses under Newark's new ordinance have been rejected on zoning grounds, it was announced recently.

C. A. Bates, secretary of the Board of Adjustment, said he rejected the applications because the coin-operated machines were to be placed in 25 gas stations scattered throughout the city.

Bates said each of the gas stations is operating under a zoning variance. The city law department has ruled, he said, that any use other than the gas station right specifically granted in the variances would be a zoning violation.

An ordinance permitting the city to license and regulate automatic milk machines was adopted by City Council in May and became effective in June.

The 25 applications were submitted by Automatic Milk Service, Inc. of Linden, N. J.

3 Promotions Announced at Long Mfg., Detroit Gear

DETROIT—T. J. Ault, president and general manager of Long Mfg. and Detroit Gear divisions of Borg-Warner Corp., has announced three management promotions.

W. E. Lang has been named director of industrial relations for Long and Detroit Gear. W. E. Rowe succeeds to the position formerly held by Lang of manufacturing manager at Long. L. W. Cartier moves up to the post of manager of quality control of both Long and Detroit Gear.

Manitowoc Names Brigrance Midwest District Manager

MANITOWOC, Wis.—T. F. Hannon, general sales manager, Manitowoc Equipment Works, has announced the appointment of W. Dale Brigrance as midwest district manager for the company's line of "2-Zones" and freezers.

W

Icemaker season with dealer plan ever!

More to sell!...More help in selling!...

Here's the surest way yet to cash in fast on the booming market for automatic ice machines!

Start right off with a full line!

Be ready to touch all the bases. Carrier makes eleven (count 'em) models not just one or two. They give you five kinds of ice to sell—cubed, flaked and three grades of crushed. You've got a bin-full of exclusive features PLUS CERTIFIED CAPACITY—a way to GUARANTEE your prospect all the ice he needs!

Let Carrier train you fast!

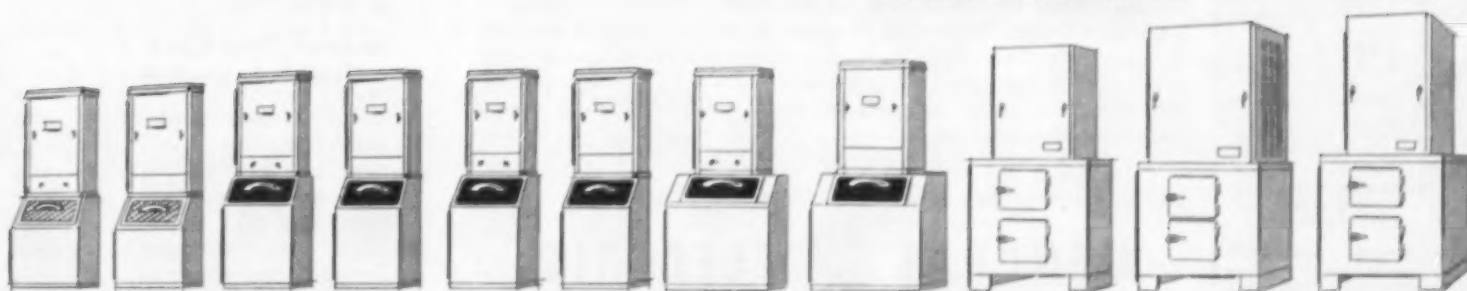
Carrier training—the best in the field—gets you off to a quick start. Packaged sales training material includes three new

training films, the new Icemaker Handbook with market and product information, competitive comparisons, engineering data and a lot more!

Wrap it up with a full-scale promotion!

The Icemaker Salesman Kit contains everything you need to kick up an ice storm—broad-sides, spec sheets, self-mailers, return cards, proposals, Certified Capacity Certificates, profit analysis forms, special ad mats. All this and national advertising, too—the strongest dose ever!

It's time to call your Carrier Distributor. You'll find his name in the Classified Telephone Directory. Or write Carrier Corporation, Syracuse, New York.



For more information about products advertised on this page use Information Center, page 26.



MARSH Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

PRESSURE GAUGES and Dial Thermometers for all services.

MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.

MARSH INSTRUMENT COMPANY
Sales Affiliate of J. P. Marsh Corporation
Dept. D., Skokie, Ill.

REFRIGERATION OR AIR CONDITIONING ENGINEER TO OPEN CLEVELAND OFFICE

If you are a technical graduate or equivalent, 25 to 32 years of age, with experience in refrigeration and/or air conditioning, an opportunity for advancement with an outstanding and progressive company is available. After a factory training program, very interesting work awaits you calling on contractors, wholesalers and manufacturers of all types of equipment. Very liberal salary, bonus and expense allowance arrangements.

Write BOX A5557, Air Conditioning & Refrigeration News

Workmen's Compensation

- (1) Be Sure Insurance Is Under Right Classification
(2) Keep Payroll To Show Hours for Each Class (3) Strive for Safety

CHICAGO—Three recommendations pertaining to workmen's compensation and employer liability insurance were offered at a heating and air conditioning dealer management school held earlier this year on the Northwestern university Chicago campus.

Henry E. Theobald, assistant dean of the university's School of Commerce, lecturer in insurance at the school, and insurance consultant, made these suggestions:

"1. See that your compensation insurance is written under the proper classification.

"2. Maintain accurate payroll

records, showing separately the wages paid for each classification.

"3. Strive for better safety (accidents increase costs)."

Dean Theobald pointed out that compensation laws are either compulsory or elective. Under an elective system, the employer may either accept or reject the act, but in case of rejection, he loses the three common law defenses—assumption of risk, negligence of fellow employees, and contributory negligence, it was indicated.

He also noted that no compensation law covers all employment.

Discussing scope of legislation, Dean Theobald said that every state has a compensation law. While all jurisdictions agree as to the principle of workmen's compensation, no two of them have exactly the same benefits, it was explained.

On this subject, Dean Theobald said that in most jurisdictions where occupational disease is not within the workmen's compensation law, the employer may be liable at common law for the payment of damages. Insurance coverages against this liability may be made available by simply adding a rider to the standard policy and paying an additional premium, the dealers were told.

Second Injuries

Continuing, Dean Theobald touched on the matter of second injuries. He defined the term "second injury" as an injury sustained by an employee who has suffered a previous injury, such that the disability resulting from the combined effects of both injuries is greater than if there had been no previous injury.

In the absence of statutory exception, he indicated, the employer in whose employ the second injury is sustained ordinarily is liable for the compensation due for the total resulting disability.

A majority of compensation laws now have provisions limiting the liability of the employer in certain cases to payment for the disability resulting from the second injury considered by itself, according to Dean Theobald.

Regarding insurance requirement for workmen's compensation, the speaker said nearly all states require the employer either to obtain insurance or to give proof of his financial ability to carry his own risk.

Classification, Rating

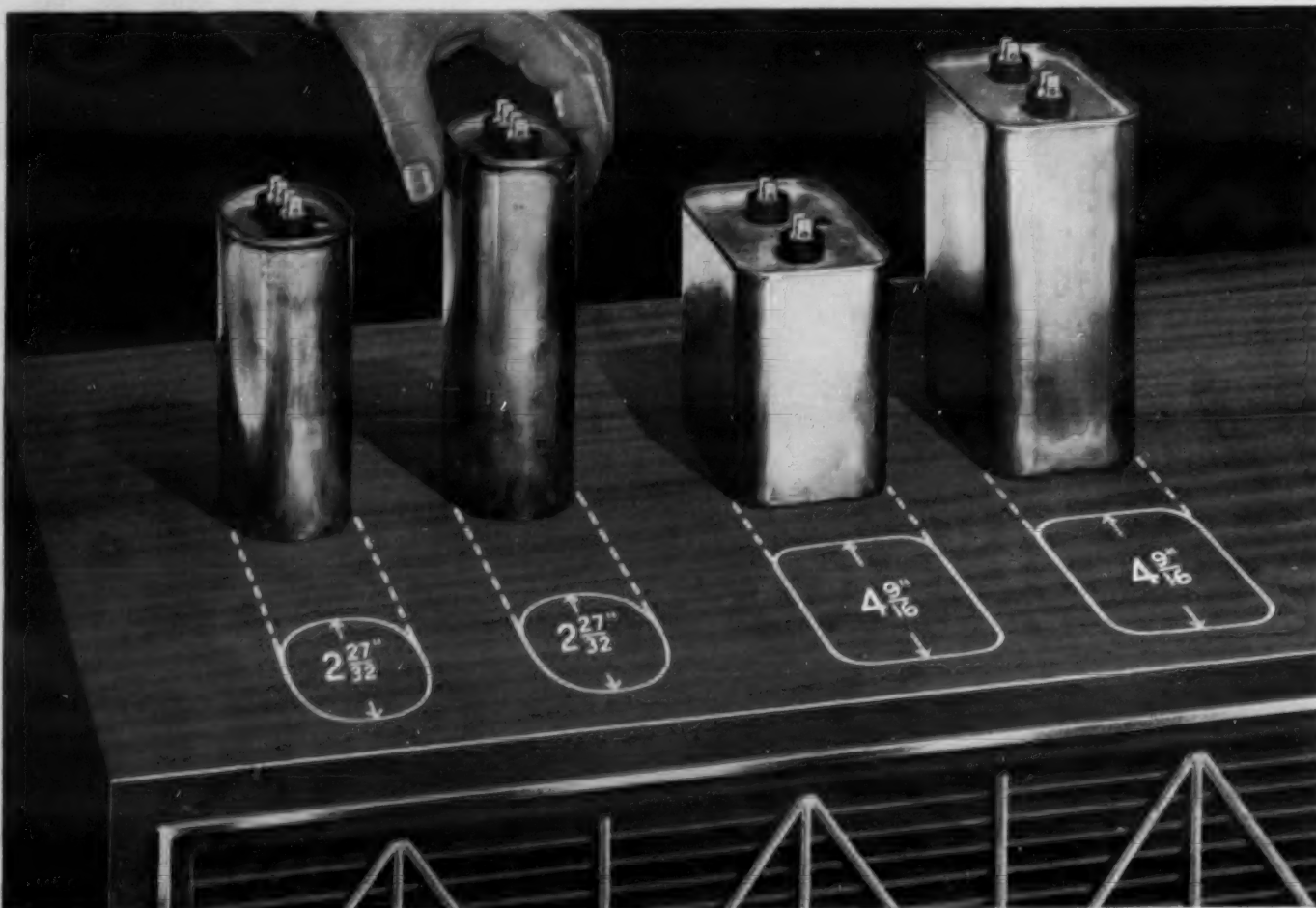
Taking up next the subject of classification and rating, Dean Theobald said premium rates for workmen's compensation insurance are compiled on a scientific basis. A bureau has been set up which collects experience on the number of accidents occurring in all of the various industries and businesses, and this bureau is nationally recognized by all carriers of insurance, according to the speaker.

After listing workmen's compensation rates by certain states and code classifications, Dean Theobald stressed that to take advantage of these different classifications and rates, it is extremely important that proper records be kept, showing the amount of payroll for each classification.

Type of Time Card Used Is Important

He advises that where the same employee does more than one type of work, some means should be provided on time cards, so that the employee can show how many hours were spent at each of the different

(Concluded on next page)



New G-E capacitors for air conditioners give you more μf in the same base size

10 REASONS FOR USING G-E AIR CONDITIONING CAPACITORS



PROBLEMS OF HIGHER POWER FACTOR correction for new room air conditioners are minimized with newly designed, higher microfarad (μf) Pyranol® capacitors now produced by General Electric.

HIGHER CAPACITOR RATINGS have been achieved with minimum increase in capacitor size and with no increase in base dimensions. Thus valuable space is saved and installation of higher rated capacitors can often be made without expensive changes in existing air conditioner design and layout.

PROPER APPLICATION of General Electric capacitors will assist you in improving power factor of all presently manufactured air conditioners, including the new 2-ton sizes. Your G-E Sales Engineer has the training and experience to assure that you get the capacitor you need. He can solve your special problems concerning power factor and optimum capacitor space utilization.

DEVELOPMENT OF THESE NEW CAPACITORS is further evidence of General Electric's continuing progress in anticipating and meeting the expanding needs of the air conditioning industry. Whatever your requirements, you can look to General Electric for the high quality capacitors you want—shipped when and where you need them.

®Trademark of General Electric Co.

442-33

Progress Is Our Most Important Product

GENERAL ELECTRIC

For more information about products advertised on this page use Information Center, page 26.

Compensation --

(Continued from preceding page) classifications of work. The type of time card used can do much to simplify the problem of keeping proper records, he says.

Referring to a suggested weekly time sheet, Dean Theobald, in a lecture prepared for the school, explained:

"On this card the employee lists the job location and the hours worked, as well as the type of work.

"This information can be transferred to the proper books so that when reports are made on withholding tax, social security, etc., it is a simple matter to add up a few figures.

How Employer Benefits From Complete Records

"Likewise, when the auditor calls, he doesn't have to waste a lot of your time or his own. In most instances if the employer cannot show separation to the satisfaction of the auditor, the law requires that all the payroll be assigned to the highest rate involved."

Dean Theobald also pointed out that certain states have adopted rules pertaining to payment of compensation insurance premium on overtime and limitation of remuneration. This means that in those states an endorsement should be attached to compensation insurance policies, it was stated.

Among other things, Dean Theobald commented on "hold harmless" agreements. His advice is:

"You should be cautious in any contract which you sign to be certain that there is no clause or agreement which states that you will save the other party to the contract harmless from any or all liability...

"If you should sign a contract containing a 'hold harmless agreement,' we warn you to immediately contact your insurance agent or broker to make sure that the liability which you have assumed is endorsed and added to your public liability coverage.

RECTORSEAL No. 2

NEW
but so
Popular!



Introduced to the industry a few short months ago Rectorseal #2 is already preferred by air conditioning men all over the nation. Reason? Quality! For here's a compound that seals positively against leaks on all freon, methyl chloride, sulfur dioxide, ammonia, all lubricating oils and water.

Thin in the tube, Rectorseal #2 spreads smoothly over fine threads, thickens in the joint to a plastic elasticity that prevents leaks—yet is always easy to break-out. With all this Rectorseal #2 costs from 20% to 40% less than other compounds. Write for a generous FREE SAMPLE and see for yourself.

RECTORSEAL, Dept. Z
2215 Commerce Street, Houston 2, Texas

RECTORSEAL
NUMBER TWO

Portable Water-Cooling Tower Has Variety of Uses

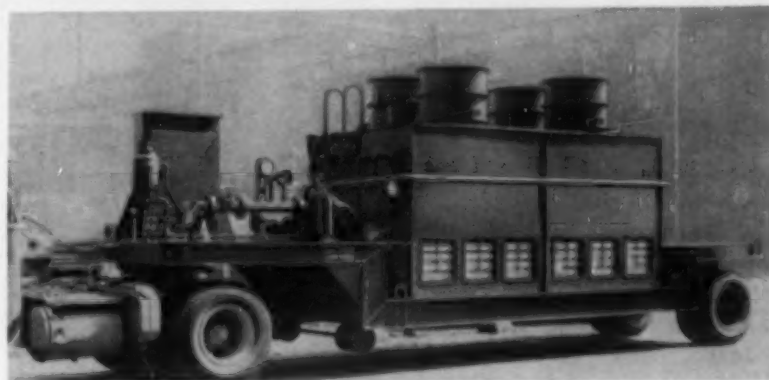
CAMBRIDGE, Mass.—Badger Mfg. Co. here has announced development of a "unique" portable water-cooling tower.

The unit is a complete package plant on wheels.

Compact and lightweight, it is equipped with all necessary accessories such as pumps, strainers, electrical control equipment, pressure gauges, thermometers, and feed water conditioner," the company said.

"Design capacity of the unit shown is 240 g.p.m. of 115° F. water reduced to 90° F. when operating at 95° F. air temperature and 80° F. wet bulb."

The tower is presently being used in conjunction with portable oxygen-generating plants in remote locations. According to Badger, the unit "may well answer a need in many water-



Badger portable water-cooling tower.

starved plants at home and tower a blessing" overseas.

"Small chemical plants could use it. So could a small diesel power station with large volumes of cooling water to recirculate. Even air conditioned buildings could find the cooling

The tower pictured is constructed of steel and is packed with 20-in. "Fiberglas." The entrainment separator is a special copper mesh, and the four axial flow fans have a capacity of 11,000 c.f.m. each, it was stated.

Acme Electric Names Burton To Sales Post

CUBA, N. Y.—Appointment of Ken Burton as assistant sales manager has been announced by



Ken Burton

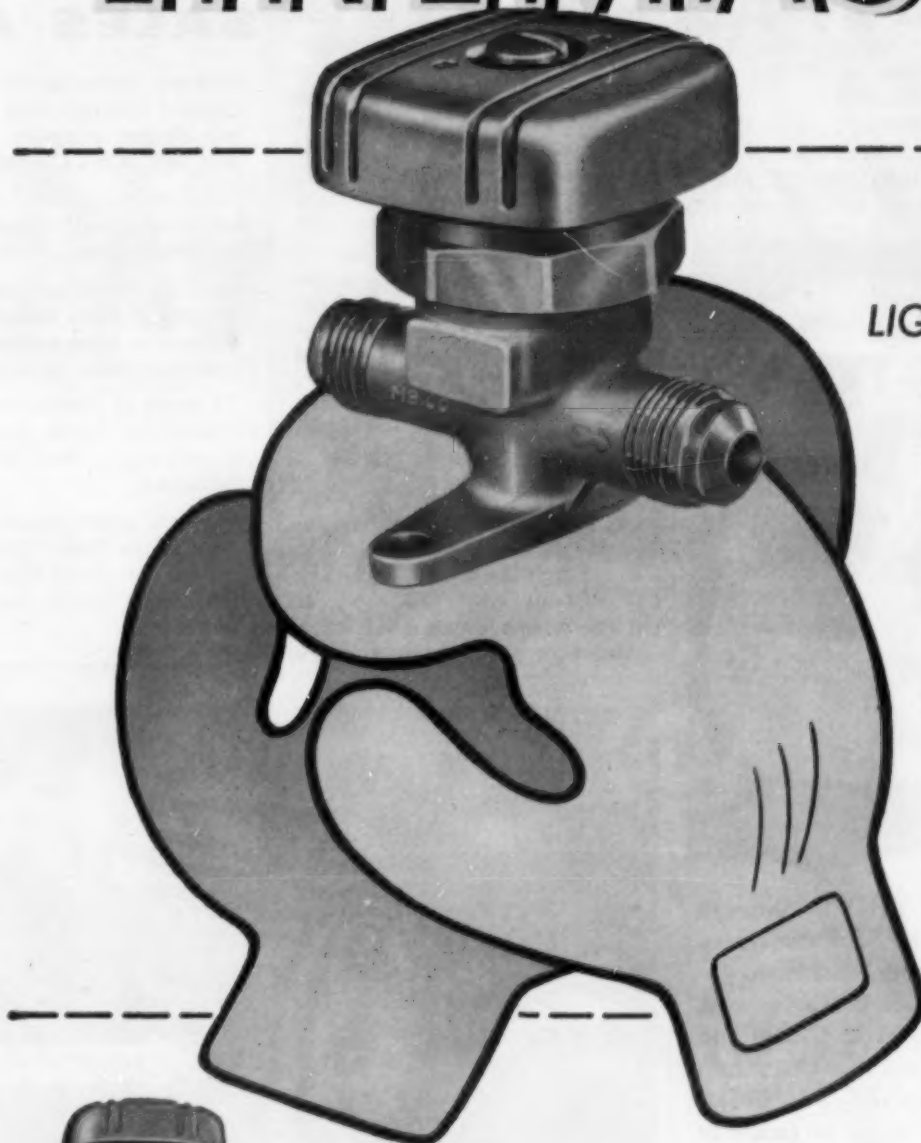
W. E. Wilson, president of Acme Electric Corp.

Burton will be principally concerned with the servicing of dealer customers in the marketing of dry-type air-cooled transformers, control transformers, stepdown transformers, and other lines distributed through the electrical wholesaling, electrical service shops, and refrigeration service trades.

He has served with George Worthington Co. of Cleveland.

INTRODUCING THE MUELLER BRASS CO.

LINEMASTER



THE NEW
LIGHT HEAVYWEIGHT
CHAMPION OF
THE DIAPHRAGM
VALVE FIELD!

MUELLER BRASS CO.

cavalcade of champions



SUPER-SEALING

A phosphor bronze diaphragm between two stainless steel diaphragms gives the LINEMASTER an unbeatable combination for super-sealing and long life. Diaphragms pressure wear tested for thousands of openings and closings without failure.

SUPER-SEATING

In the LINEMASTER, tough, resilient molded nylon seat disc insures positive shutoff even if foreign material is lodged against the seating surface. Mueller Brass Co. pioneered and proved the superiority of nylon for "super-seating".

The simple design and sound engineering of this compact forged brass LINEMASTER make it a real heavyweight among "shorty" diaphragm valves. These new LINEMASTERS are solid brass construction throughout... even to the comfortable, square design handwheel. Flow passageway is streamlined to eliminate turbulence and provide full-flow. Exclusive triple diaphragms of phosphor bronze and stainless steel furnish seep proof sealing and excellent wear resistant properties. A tough, resilient nylon stem disc operating against a precision finished seat assures positive shutoff. Five straight-thru and angle type LINEMASTERS with flare, solder, and M.P.T. end connections are available. Never before has such a compact valve embodied so many good sound engineering features and been built to such high standards of quality. The LINEMASTER is really a light, heavyweight champion. See the popularly priced LINEMASTERS at your wholesaler's... and judge for yourself.

MUELLER BRASS CO. PORT HURON 9, MICHIGAN

MUELLER
BRASS
CO.
STREAMLINE
PRODUCTS

Product Knowledge, Protective Maintenance, Trouble-Shooting, Adjustment, Repair of Electric Motors (3)

On these two pages, the NEWS presents the third installment of a discussion by T. N. Schierloh, service technical manager of General Motors' Delco Products Div., on servicing refrigeration and air conditioning motors. A comprehensive treatment of the subject, the material has been presented before RSES groups.

By T. N. Schierloh, Service Technical Manager,
Delco Products Div., General Motors Corp.

The last type motor we are going to discuss is the capacitor-start, capacitor-run, or two-value capacitor motor (Fig. 16), which is rapidly replacing the repulsion-start induction motor on 1 to 10 hp. single-phase applications.

In addition to the electrolytic starting capacitor which is disconnected at switching speed, this motor has a smaller capacity, oil-filled capacitor which, in series with the phase winding, is always in the circuit (Fig. 17). The function of the smaller capacitor is to provide more quiet and efficient operation and improve the running power factor.

As we have been discussing some of these later types of motors, you have probably noticed the term "power factor" becoming more and more evident and this discussion would not be complete without discussing the impact of power factor on the motors of the future.

As a service engineer you will probably be called on to explain power factor to some of your

clients so perhaps you might be interested in a method of explaining this "phenomena" to those who do not understand vector diagram analysis of voltage and current.

Motor power factor is determined by the fact that induction motors draw not only power current, but at the same time they also draw a magnetizing current component from the power lines (Fig. 18).

The power portion of the current is consumed in the motor to drive the load; the magnetizing current is used only to produce the magnetic fields that are necessary for operation of the motor. Thus, the magnetizing current does no work; however it does put an additional load on the power lines.

In the illustration the power current is shown with solid line in black and the magnetizing current with dotted line. Note that incandescent lamps and resistance loads use no magnetizing current.

With the increasing number of new installations of major appliances and central air con-

ditioning systems especially in residential areas, the loading of existing power line (or any practical sized distribution system for that matter) has reached the critical stage.

Only Practical Way To Reduce Line Current

The only practical way to reduce the line current is to reduce the magnetizing current component by the use of capacitors which have the ability to produce magnetizing current.

In certain areas, especially the large cities in the south, the power companies have invested millions of dollars in capacitor banks for power factor correction in residential areas. This will not be nearly enough, however, to handle anticipated requirements; some of the correction must be made at the point of use.

Future single-phase air conditioning and refrigeration equipment will not be approved unless the over-all power factor is within specified limits. The trend, therefore, is to more capacitor motors of all types.

Motor Hygiene, Health

The second study we have listed in our four basic requirements is motor hygiene and health. Here we are concerned with the proper environment in which motors will run best; what poisons or diseases will shorten their life or destroy them; and what preventative medicine we can use. This we call planned preventative maintenance and a good education in this phase of the business will keep us out of a lot of trouble.

Three 'Poisons' That Affect Motor Life

There are three "poisons" that endanger or shorten the life of an electric motor (Fig. 19). They are: (1) Moisture, (2) dirt or dust, and (3) oil (in the wrong place, that is).

Moisture in motor windings,

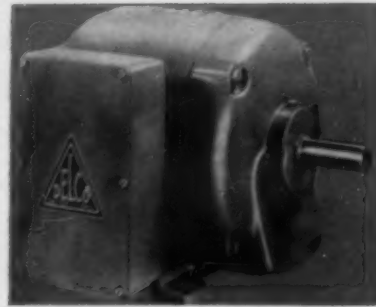


FIG. 16—Capacitor-start, capacitor-run or two-value capacitor motor.

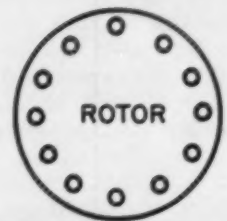


FIG. 17—Schematic drawing of two-value capacitor motor.

either by dripping or by condensation within the motor presents the greatest hazard. In addition to greatly lowering the insulating value of the wire coating, water absorbs many other harmful fumes and chemicals to soften and destroy the insulation. Larger motors should be tested at regular intervals for resistance to ground.

Dirt and dust form an insulating blanket or coating holding the heat in the motor until it may reach temperatures that cause breakdown. The life of most insulating materials is a

product of the time and the temperature. If the temperature is higher the time or life, will be shorter.

Most dust and dirt is abrasive
(Continued on next page)

REFRIGERATION SALES AND SERVICE!

Midwest manufacturer of superior, quality line of continuous Custard Freezers and Automatic Milk Shake machines, expanding dealer program, wants qualified REFRIGERATION SALES and SERVICE COMPANY representation.

Competitive pricing, exceptional Quality, factory financing of retail sales and highest discount schedules makes an excellent opportunity for the company meeting our high standards.

Must be financially able to stock 10% of quota, small parts inventory, carry classified telephone directory listing and participate in cooperative local advertising campaign. Must have qualified sales personnel.

25 years of freezer manufacturing experience and product merchandising "know how". National advertising campaign assures a continuous flow of well qualified leads. Basic sales tools furnished.

Increase your overall dollar volume. Let the Sani-Serv and Sani-Shake Profit Story pave the way for the sale of additional equipment. Write Paul Brown, National Sales Manager, General Equipment Sales, Inc., 1350 Stadium Drive, Indianapolis 7, Indiana.

HANSEN

QUICK-CONNECTIVE 2-WAY SHUT-OFF COUPLINGS!

QUICK CONNECTION AND DISCONNECTION

INSTANT AUTOMATIC FLOW OR SHUT-OFF

Seals Both Ends of Line
AUTOMATICALLY
INSTANTANEOUSLY

To connect a Hansen Two-Way Shut-Off Coupling, you just pull back the sleeve and push the Plug into the Socket. To disconnect, merely pull back sleeve. No tools required. Similar valves in Socket and Plug shut off both ends of line when Coupling is disconnected—practically eliminate spilling of liquid or escape of gas at instant of disconnection.

FEMALE PIPE THREAD CONNECTIONS FROM 1/4" TO 1"

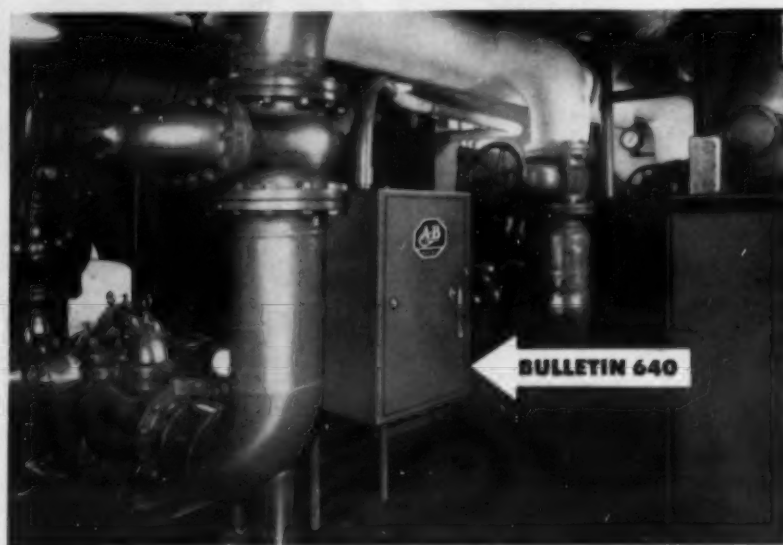
Hansen Series HK Two-Way Shut-Off Couplings are available with female pipe thread connections from 1/4" to 1" inclusive. Available in brass or steel.

Also Straight-Through and One-Way Shut-Off Couplings. Write for Catalog.
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SINCE 1915

QUICK-CONNECTIVE FLUID LINE COUPLINGS

THE HANSEN MANUFACTURING COMPANY
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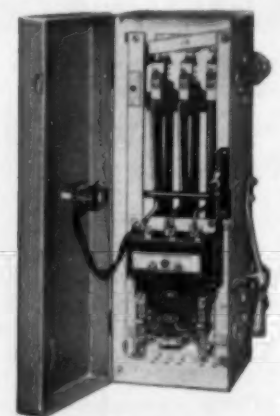


How BULLETIN 640 "Stepless Starters" prevent lamp flicker . . .



The Sign of
QUALITY
MOTOR CONTROL

By compressing graphite disc resistors . . . which no other starters have . . . Bulletin 640 starters provide stepless acceleration . . . there is no sudden current inrush to cause lamp flicker. This velvet smooth starting prevents jolts to gears, belts, and connected machinery. Operation is simple . . . just lift operating lever slowly and motor comes up to speed where full voltage is applied without opening circuit between motor and line. Send for descriptive Bulletin 640.



Bulletin 640—Ratings to 200 hp, 220-440-550 volts. Size 2-35 shown above.

Allen-Bradley Co.
1313 S. First St., Milwaukee 4, Wis.
In Canada—
Allen-Bradley Canada Ltd., Galt, Ont.



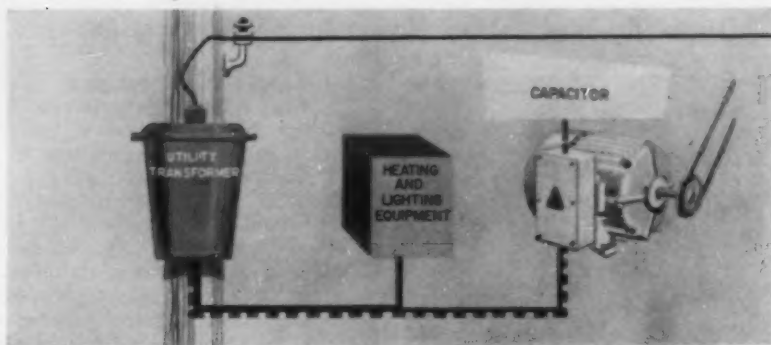


FIG. 18 illustrates power current (solid line) and magnetizing current (dotted line). Magnetizing current does no work but puts an extra load on power lines.

Motor Servicing --

(Continued from preceding page) in structure and if allowed to accumulate will work its way into bearings.

Dirt in the windings has a capillary effect to "draw" moisture and oil from the bearing housings. Take time to blow dust out of motors with low-pressure, dry air or with hand bellows. It's a first rate medicine for healthy motors.

Too Much Oil Causes Many Motor Failures

Stray oil on a motor is usually the result of defective seals or in most cases, careless lubrication practices. Any motor repairman will tell you that more motor failures can be traced to too much oil than not enough. Oil softens the winding insulation, the rubber mounting parts—it gets in switch, collects dust, and starts fires.

A word of caution, however, about cleaning oil-soaked windings. Don't soak windings in any type of solvent. Clean with a hair bristle brush dipped in cleaning solvent. Blow out with low-pressure air and oven dry at 120° F. for 6 to 8 hours.

4 Motor 'Diseases'

In addition to the poisons just mentioned, there are four diseases (Fig. 20) that can prove fatal to a motor. They are: (1) Friction, (2) misalignment, (3) improper voltage, and (4) overload.

The germs of the disease "friction" are ever-present, waiting for an opportunity to attack. Every motor bearing (except special plastic types) requires a film of oil to keep the stationary and moving metallic surfaces apart.

If this film is destroyed by an insufficient supply of oil—or the wrong kind of oil—or foreign matter in the oil supply—or so much thrust on the bearing that the film breaks down, we have a bearing failure.

Protective maintenance of bearings is guided by three basic rules:

1. Always use the manufacturers' recommendation for type of lubricant and frequency of lubrication.

2. Don't over-lubricate. In addition to the stray oil prob-

lem, common with sleeve bearing motors, overgreasing of ball and roller bearings produces friction and heat because of the energy required to push the grease around, and heat will usually destroy the bearing.

3. Keep records of lubrication and bearing inspection on large equipment.

Sometimes failure from friction is caused by the second

disease, "misalignment," which not only attacks the motor but also the drive mechanism and the driven equipment.

Preventative maintenance against this hazard consists of:

1. Periodically checking alignment. Remember it can change in time due to warping and settling of the mount or loosening of the mounting bolts.

2. Maintaining proper alignment and tension on V-belts and

the use of matched sets in multiple-belt applications.

3. Checking balance and mounting of units with excessive vibration.

Improper voltage is the third killer of this group. There are two types: over-voltage and under-voltage.

High voltage imposes additional heat and work loads on the motor. Low voltage causes the motor to draw excessive

current and to "pull-out" and fall back on the starting winding.

Maintenance inspection should include checking the line voltage at the motor terminals while it is starting and running at normal load. Voltage should be within $\pm 10\%$ of the nameplate voltage.

(To Be Continued)

("This article is to be reprinted. To place your order, use Information Center coupon.")

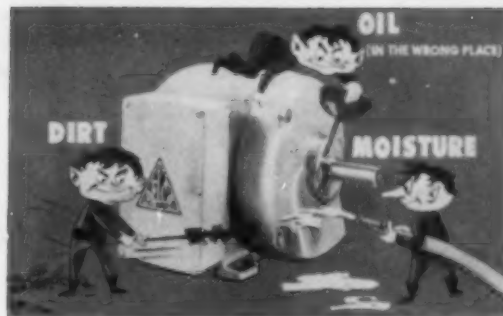


FIG. 19 illustrates three "poisons" that endanger or shorten motor life.

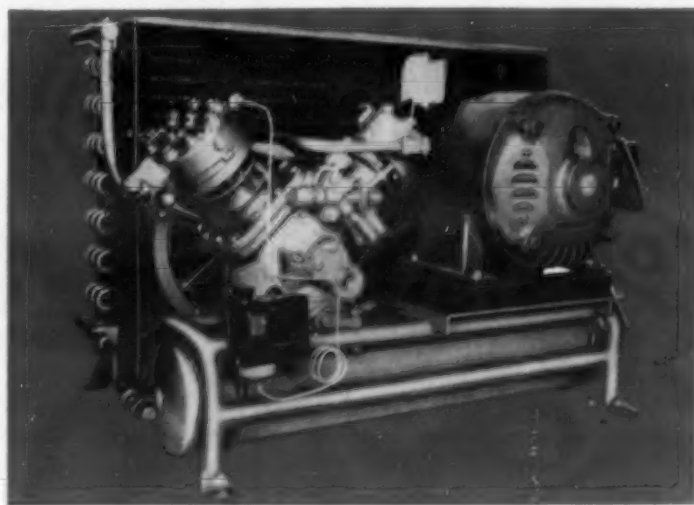


FIG. 20—Four "diseases" that are always waiting to attack motors.

Only Kelvinator Open-Type Condensing Units Give You Minimum Parts Inventory With Maximum Flexibility

ONLY \$44.07

PARTS INVENTORY SERVICES ALL MODELS



Model OA-100 open-type condensing unit with new light-weight, extra strength tubular base.

The low service parts inventory and the interchangeability possible with the few parts needed for normal service, is a major reason for standardizing on Kelvinator equipment. And there are many other reasons why more and more companies consider Kelvinator their most desirable source of supply. For Kelvinator offers equipment with a proven record of long life, low operating cost, high efficiency. Kelvinator equipment is easier to handle, to install, and far easier to service. And Kelvinator is a good company to do business with. See your Kelvinator wholesaler or write today for complete information.

American Motors Means



More for Americans

Kelvinator

Division of American Motors Corp., Detroit 32, Mich.—In Canada: Kelvinator of Canada, Ltd., Toronto 15, Ontario

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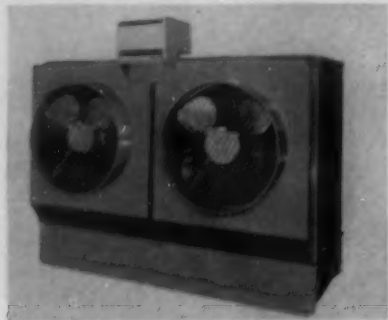
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AIRO SUPPLY CO.

2732 N. Ashland Ave., Chicago 14, Ill.

What's New

Larkin Adds, 25, 30, 40, 50-Ton Cooling Towers



—KEY NO. F-640—

ATLANTA—Larkin Coils, Inc. has expanded its line of "Water Saver" cooling towers to include 25, 30, 40, and 50-ton models, it has been announced by O. M. Sims, president.

There are now 18 models in the line. All are designed for outdoor or indoor use.

When first introduced two years

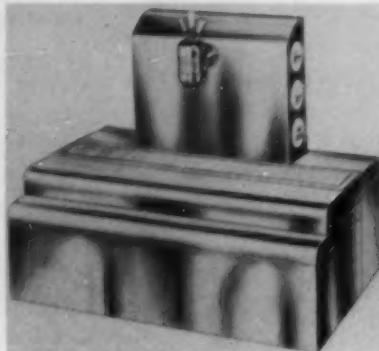
ago to supplement Larkin's line of "Hydro-Miser" units, Larkin Water Savers were available in capacities from 2 to 10 tons. Now there are 11 propeller fan models from 2 to 50 tons capacity and seven centrifugal-blower models from 2 to 20 tons.

Blower assemblies and propeller fans may be interchanged in the field on models from 2 to 20 tons.

The Larkin Water Saver has wetted surfaces of all-heart redwood with nailless interlocker construction. Bolted panels permit dismantling of the unit in the field—all the way down to the sump.

The 3 and 3-ton models with fan have direct drive, totally-enclosed motors. All other models are belt driven, with drip-proof motors.

A gravity-type distribution basin with low pumping head over the tower is used in the Larkin unit.



3 Soft Drink Dispenser Models Introduced

—KEY NO. F-642—

CANFIELD, Ohio—The "Baronet" is the newest addition to the "Sodamaster" line of self-contained, self-refrigerated soft drink dispensers manufactured by Carbonic Dispenser, Inc. here.

Manufactured in three models, the Baronet is said to be particularly suited for medium capacity dining and refreshment establishments, including diners, sandwich shops, custard stands, taverns, and recreation rooms.

The company said the unit has a continuous capacity of two drinks per minute, plus reserves, with 70° incoming water and 75° room temperature.

It operates with a 1/2-hp., hermetically-sealed, water-cooled condensing unit and with three 1-gal. syrup tanks, providing sufficient syrup for 375 6-oz. ice-cold drinks, the firm pointed out.

The unit has a stainless steel cabinet, "with all material coming in contact with the soda water or syrup in either stainless steel or odorless and tasteless plastic rubber."

The BD3H model (pictured) features a superstructure with lighted point of sale window for displaying advertising material. The B3H is identical, with the exception that it is equipped with a fountain style "Mix-Monitor" faucet in place of the superstructure.

The third Baronet, the B3HP, is a plain top model, comparable to the current "Imperial" line.

Dust-Magnet Filter Has Plastic Woven Mesh



—KEY NO. F-643—

CHICAGO—A dust-magnet air filter was recently offered as a replacement for conventional 1/2-in. filters in room air conditioners by Stoddard Industries, Inc. here.

Made in many sizes, specials can be made and shipped.

New model J-C dust-magnet has a tension frame of rustproof wire that keeps the plastic woven mesh taut. Bound in flexible green plastic reinforced with brass-plated corner pieces, the dust-magnet is designed primarily for use where heat doesn't exceed 160° F., it was noted.

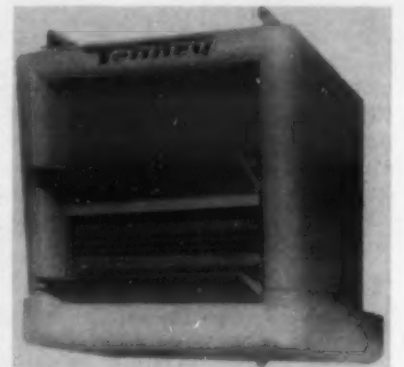
Tenney Develops 'Angle-Air' Cooling Unit

—KEY NO. F-644—

UNION, N. J.—A new "Angle-Air" cooling unit recently was introduced here by Tenney Engineering, Inc.

Claimed to be easy-to-install and service, three steps are required for installation. Hang template mount, then slide unit into place on rail hangers, and, finally, connect refrigerant, power, and drain lines, the firm said. One man can perform installation.

Other Angle-Air features include suction line provision for expansion valve bulb location.



Gibson Chest-Type Freezer Stores 578 Lbs.

—KEY NO. F-645—

GREENVILLE, Mich.—Gibson Refrigerator Co. recently introduced a new chest-type freezer, model CF1717, it was announced.

According to the firm the freezer has a fast-freeze compartment and a storage compartment with combined capacity of 578 lbs. Features include automatic interior light, removable storage basket, single dial control, and safety lock.

The unit has patterned aluminum interior, is 37 1/16 in. in height, 60 3/4 in. wide, and has a depth of 33 3/4 in., the company said.



Dunhill 'Jr.' Bobtail Serves 7 Syrup Flavors

—KEY NO. F-641—

BROOKLYN—Dunhill Soda Fountain Corp. here recently introduced a new model JR-1C "Junior Bobtail" which measures 36 in. long and serves 7 flavors.

The bottle storage compartment of the self-contained unit is constructed of 24-gauge stainless steel side walls with a 20-gauge stainless steel bottom. All joints are electrically welded and soldered for water tightness. Bottom of the lining is die-formed for large radius corners and is indented.

Other features include a 100% dry instantaneous cooler, and separate water, soda, and refrigerant coils cast in aluminum block.



Information Center

For more information on New Products, current literature and catalogs available, equipment advertised, reprints available in AIR CONDITIONING & REFRIGERATION NEWS, use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

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Howard Offers Induction Motor

—KEY NO. F-646—

RACINE, Wis.—Model 2,900 induction motor rated 1/100 to 1/15 hp. was recently released by Howard Industries, Inc.

Incorporating 24-slot lamination, the firm states the motor runs cooler with reduced "cogging" effect, less external field and vibration, and makes six and eight-pole units have lower speed operation and three-phase application.

INQUIRIES AND PARTS ORDERS FOR

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NEW Designs and Features! P-H REFRIGERATORS and FREEZERS



MODEL P 40-2 Self-Contained



MODEL SA 15-15 Two-Temperature Refrigerator

Important features of the newly styled and completely redesigned P-H line of commercial refrigerators and freezers include:

- ☆ Genuine Porcelain or Stainless Steel Finish.
- ☆ Exclusive "Grad-U-Matic" Self-Defrosting Air Conditioning.
- ☆ Tubular Electric-Welded Steel Frames.
- ☆ Heavy Fiberglass Insulation.
- ☆ Solid or Triple Thermopane Doors.
- ☆ Self-Contained or Remote Control.



MODEL P 66-3 Self-Contained

APPROVED

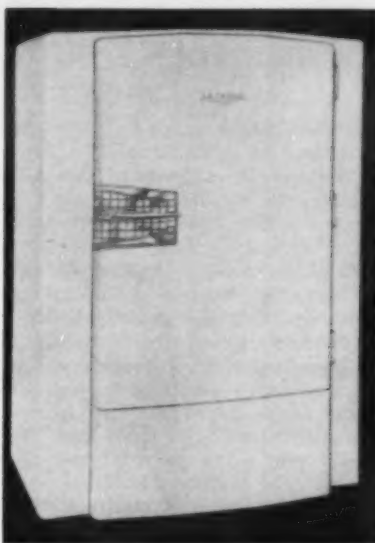
Also AVAILABLE — A complete line of Reach-In, Pass-Thru and Solid Refrigerators . . . Upright Storage Freezers . . . Baker's Freezers and Dough Retarders . . . Dairy-Delicatessen Cases . . . Two-Temperature Refrigerators . . . 22 to 96 Cu. Ft. Capacities . . . Dry Beverage Coolers . . . and Walk-In Coolers and Freezers.



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PUFFER-HUBBARD REFRIGERATOR CO.
 GRAND HAVEN, MICHIGAN

EXPORT OFFICE — PUFFER-HUBBARD INTERNATIONAL —
 440 Lafayette St., New York City — Cable "MANREFSUP"

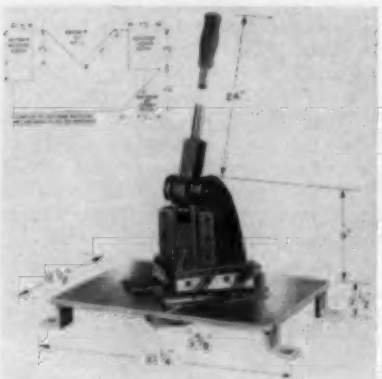


LaCrosse Offers Upright In White Enamel

—KEY NO. F-647—

LA CROSSE, Wis.—La Crosse Cooler Co. here recently announced production of a 29-cu. ft. "Polar Pantry" upright freezer series in white baked enamel.

The firm emphasized such features of the unit as automatic lighting, built-in condensation minimizers, all-steel construction, and having the refrigerant tubing fused to the individual shelves for flash freezing. Both models L29 and L29-D are available with or without inner compartment doors.



Notcher Cuts 90° Notch 4 1/4-In. Deep

—KEY NO. F-648—

ROCKFORD, Ill.—A notcher that has the capacity to cut a 90° notch 4 1/4 in. deep in 16-gauge mild steel is now available from Whitney Metal Tool Co. here, the firm has announced.

The blade of this new Whitney-Jensen No. 100 hand metal notcher is 6 in. long on each side. It is operated by a hand lever and eccentric-pivoted link which "delivers terrific cutting power to the blade through a V-ram that has adjustable ways to insure positive blade and die alignment," the company said. Aviation-type bearings reduce friction. The lower die is quickly and easily adjusted when necessary, it was noted.

The machine is mounted on a steel table 21 1/4 in. wide and 12 1/2

in. deep which has 2 1/2-in. high legs with bolt holes for bench mounting.

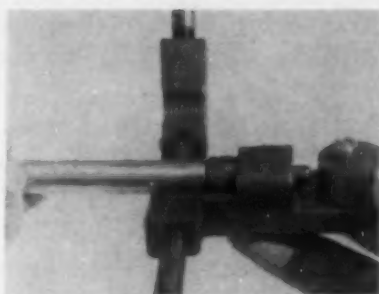
The tool will do various cut-off or cut-off operations on corners as well as producing 90° notches of any depth up to capacity. Guides with 90° and 45° sides are fully adjustable.

Engesser Produces Tool for Flaring

—KEY NO. F-649—

EL MONTE, Calif.—"Spe-D-Flar," which is said to produce a perfect flare in the end of copper tubing in 10 seconds, is now manufactured and marketed by William L. Engesser & Co. here.

The flaring operation is simple, according to the firm, and is accomplished in three steps. Open the Spe-D-Flar and place copper tubing against flaring pin. The tube adjusts automatically to proper height above the holding jaws. Close the holding jaws and hold handles firmly together. And, finally, close the compression cam



handle which moves the flaring pin against the tubing. When tubing is taken out, it's ready.

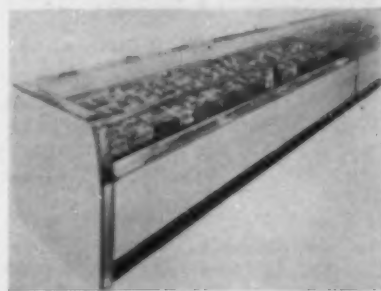
Engesser claims the flaring pin is always in alignment with the tube to be flared. The boring of the hole through the holding jaws and hole for the flaring pin pressure rod is one operation.

Meat Case Can Operate at Normal or Freezing

—KEY NO. F-6410—

ST. LOUIS—A new type refrigerated display meat case which can be operated at normal or freezing temperatures recently was introduced by Hussmann Refrigerator Co. here.

Called model LM, the case may be operated at normal temperature for fresh meats, and is convertible to a low temperature case for frozen meats.



Typhoon Has Air-Cooled Conditioner Furnace

—KEY NO. F-6411—

BROOKLYN—A new air-cooled air conditioner furnace called the

It features the smallest coil yet developed for delivering a full 3-ton capacity.

"Weather-Selector"

The Weather-Selector is designed for basementless homes.

is now available from all distributors for Typhoon Air Conditioning Co., a division of Hupp Corp., it was announced recently by Don V. Petrone, Typhoon's chief.

The Weather-Selector furnace is a heavy-duty gas-fired unit with all automatic controls and safety features. It has a Typhoon "Power Reserve" blower which supplies the cooling air at peak loads.

The housing on the top is engineered so that the 10 1/2-in. high cooling coil slips in easily.



Now, you can handle any drying job if you stock just 4 Ansul Dryers and 8 Fittings

There isn't a drying job going that you can't handle with the Ansul line. What's more, you automatically cut your dollar investment in truck stock when you standardize on this advanced line. Equally important, you save valuable time by eliminating trips to pick up parts.

Once one of the 8 Ansul T-Connectors is permanently placed in the liquid line, you can install any one of the 4 Ansul T-Flo Dryer Cartridges (see above). These twelve parts give you 32 possible installation combinations. The T-Connectors are available in 1/4", 3/8", 1/2" and 3/4" sizes for both flare and soldered installations. Here is flexibility that no other dryer line can match. For the largest installations Ansul dryers can be easily manifolded to provide unlimited drying capacity, eliminating the need for stocking outside, infrequently used dryers.

Changing a T-Flo Dryer is the easiest thing in the

world. Remember, line breaking is not necessary. Just unscrew the old dryer and replace it with the new. Hand tightening will give you a leakproof seal. And you can install the T-Flo Dryer in any position, up, down or sideways.

Ask your Ansul Wholesaler about the new DRY-EYE fitting. The window changes color to let you see if the system is wet or dry. This is the most important servicing aid ever developed by Ansul—there's nothing else like it on the market. THE ANSUL CHEMICAL COMPANY, Marinette, Wis.



Increase COOLING TOWER EFFICIENCY With ASPIR-JET

Aspir-Jet, the new spray nozzle, increases efficiency of cooling towers by increasing water break-up and improving water distribution. This is accomplished by the Aspir-Jet unique design which atomizes the water with as little as one-half pound nozzle pressure. Formed of butyrate plastic, Aspir-Jets last longer because they do not corrode. Thousands already in use are giving better cooling even with lower than normal pressures.

• Available through Refrigeration and Air Conditioning Wholesalers.

Manufacturers & Refrigeration Wholesalers: if you are not now using or stocking this outstanding new product, wire or write

THERMAL AGENCY

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Bulletin Explains Vibration Isolation

KEY NO. R-640

CORONA, N. Y.—Now available from Vibration Mountings, Inc. is a new bulletin on vibration isolation designed for heating, ventilating, and air conditioning equipment.

The folder outlines in detail various methods provided for preventing transmission of vibration from these types of equipment. A chart of theoretical material isolation efficiencies based on r.p.m. is included, along with outline recommendations for isolating centrifugal compressors, reciprocating compressors of V-W type, air handling units, centrifugal fans and pumps, the company said.

Also included are recommenda-

tions for isolating self-contained air conditioning units, cooling towers, boilers, induced or forced draft fans, piping, and special applications.

B.A.C. Catalogs 'MC'

Evaporative Condensers

KEY NO. R-641

BALTIMORE—The Baltimore Aircoil Co. has recently published a 12-page catalog on its new "MC" line of heavy duty evaporative condensers.

The catalog covers the complete line . . . 22 sizes, from 10 to 350 tons . . . for "Freon 12," "Freon 22" and ammonia. The construction and components of the units are described in detail, utilizing illustrative photographs of the units.

Wolverine Booklet Covers Trufin Applications

KEY NO. R-642

DETROIT—Wolverine Tube, Div. of Calumet & Hecla, Inc., announces a new booklet designed for many industries, "Opportunities Unlimited—Using Wolverine Trufin."

The booklet covers a number of the numerous applications where Trufin (the integrally finned tube) is used and can be used effectively and economically, the company said. It includes applications in processing, electrical, water heater, refrigeration, and allied industries.

Recold Catalog Shows Pie-Shaped Coil Line

KEY NO. R-643

LOS ANGELES—Refrigeration Engineering, Inc. recently issued Recold "Delta Coil" catalog no. 4C6a showing the firm's full line of pie-shaped refrigeration coils for applications above 34° F.

Specifications and dimensions for the high humidity, low velocity coils are given, along with explanations for installation and service, it was added.

Condensing Units, Motor Compressor Described

KEY NO. R-644

GAINESVILLE, Ga.—The Brunner Co. here announces the publication of two product catalogs.

They are a comprehensive presentation of the 1/4 through 3-hp. line of semi-hermetic condensing units and high-torque motor compressors, and a four-page consolidated catalog, a condensed version of the formal catalog.

The Brunner Co. is a wholly owned subsidiary of Brunner Mfg. Co., Utica, N. Y.

The 24-page book (G-141), which is designed to give the reader quick and accurate access to eight separate sections, includes water-cooled combination air and water-cooled, capillary tube, and truck units.

In addition, the catalog contains a brief summary of the "Brunner-Metic" five-year protection plan

(warranty plan) and the new Brunner-Metic "Building Block" compressor rack, which permits the convenient mounting of any number of Brunner-Metic condensing units.

Each description of the semi-hermetic condensing units includes a representative photograph of each flat base and raised-base model available, top and side schematic views, temperature applications, specifications, and capacity data of each model.

Other sections include information on temperature ranges and electrical characteristics for each size motor compressor and unit and outstanding features found in the Brunner-Metic high-torque motor compressors.

Electronics Testing Equipment Illustrated

KEY NO. R-645

CHICAGO—A new illustrative bulletin describing electronics testing equipment was issued recently by Simpson Electric Co. here.

The six-page brochure, No. 2056, gives concise descriptions and specifications of products in the extensive Simpson Electric line of testing instruments designed for use by radio, television, and refrigeration technicians.

In addition to panel meters and other specialized testing equipment, several new products are listed in the booklet. Among these is a new temperature meter, model 385-3L, which has three test probes, allowing simultaneous temperature readings from three different locations in a refrigerator or commercial cold storage area.

Centrifugal Refrigerating Machine Cataloged

KEY NO. R-646

DETROIT—An 8-page, illustrated, two-color catalog (Bulletin 1426) describing the "Tonrac" single-stage hermetic centrifugal refrigerating machine is now available from American Blower Corp. here.

The new bulletin describes in detail the features of Tonrac. A cut-away photograph illustrates the various construction details.

Wholesale Buyers Guide Contains 204 New Items

KEY NO. R-647

CHICAGO—E. P. Sorensen, president of Airo Supply Co. here, announces the release of the Airo Wholesale Buyers' Guide No. 56.

Containing 204 items never before appearing, the catalog has 112 pages of parts, equipment, and accessories for air conditioning, heating, and refrigeration. More than 6,000 items are included.

In addition to the lines shown in the Airo catalog during the past 28 years, which are headed by Kelvinator high sides and "Recold" low sides, some of the new lines are Halstead-Mitchell condensers, Honeywell controls, "Refrigotron" leak detector, iron pipe and fittings, Bell & Gossett pumps, Bacharach instruments, Dunkirk and Atlantic boilers, baseboard and standing radiation, and Sall, McDonnell, and Detroit heating valves, controls, and thermostats.

While the Airo Wholesale Buyers' Guide will be mailed free of charge and postage paid to any legitimate air conditioning, heating, or refrigeration buyer, anywhere in the world, it is suggested that firms in foreign countries remit \$2 in U. S. exchange for fast air mail postage.

Brochure Covers 'Super Shake' Unit

KEY NO. R-648

NEW YORK CITY—Publication of a new brochure was recently announced by Port Morris Machine & Tool Works, Inc. to give more information on the new "Electro Freeze Super Shake" unit.

This brochure gives complete specifications, as well as the facts and figures on the cost and profit to the operator when using a fully automatic milk shake freezer, the company said.

Dunham Describes 'Vari-Air' System

KEY NO. R-649

CHICAGO—C. A. Dunham Co., heating and cooling equipment manufacturer, recently published a 12-page, two-color booklet on its "Vari-Air" system of heating, ventilating, and cooling for schools and public buildings.

Bulletin 2181 contains selection, capacity, and dimensional data, typical installations and applications, and material on operation and features of the system.

profit from filter merchandising



NO WAIT OR WORRY!

Standard and special 1/2" sizes shipped in 1 week!

More profit on per-unit sales plus an established demand and a natural tie-in with your present servicing activities makes A-Lum-O-Aire Filters your best bet for effective filter merchandising. Exclusive features that help you sell — assure customer satisfaction. Washes clean with water in a jiffy. Nothing to add; no mess to clean up after. Saves valuable time and eliminates the cost and bother of extra materials. Aluminum wool media does ALL the filtering.

Make A-LUM-O-AIRE your source for special sizes!



Check These Features

- rustproof
- fireproof
- requires no messy oils or adhesives
- washes clean with water
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- clean
- economical
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New compactness in air-cooled AIR CONDITIONER design!



MODEL RO-525A
(with air distribution head)

MODEL NO.	NOMINAL CAPACITY	TOTAL COOL. B.T.U.	COOLING C.F.M.	OUTSIDE DIM.
FL-2	2 Ton	24,000	900 @ .3 S.P.	30Wx21Dx43H
RO-26	2 Ton	24,000	1000 @ .3 S.P.	30Wx21Dx34H
RO-31	3 Ton	36,000	1200 @ .2 S.P.	30Wx23Dx38H
RO-31 H P	3 Ton	37,700	1400 @ .3 S.P.	30Wx25Dx40H
RO-525 A	5 Ton	63,500	1800-2400 @ .3 S.P.	40Wx26Dx57H

Thermostat has 3 positions: Continuous — Automatic, Fan & Compressor — OFF.

Complete air conditioning for entire home — or equivalent commercial or office area — at the lowest cost in smallest space! GENERAL AIR CONDITIONERS deliver 2, 3 or 5 tons of cooling. All models operate on standard outlet (220 V, single and 3 phase except 2-ton — single phase only).

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'Comfort Engineered' Larger Chicago Test Home Expected To Be Heated, Conditioned for Adjusted \$127-a-Year Rate

CHICAGO — Completion of the first house and plans for construction of three others in the Chicago area have been reported in a two-year national test program to determine costs of heating and cooling an average size American home.

The test program is sponsored by Owens-Corning Fiberglas Corp.

The first Chicago area test house has been built at 330 S. Juliene St., Naperville. Actual testing is scheduled to begin this month when the dwelling is occupied by its owners, Mr. and Mrs. Robert Henert.

1,315 Sq. Ft. Floor Space Is Larger Than Average

Builder of the dwelling is the Charles Shiffler Sons Co. of Naperville. The house is a three-bedroom, one-story ranch type with full basement and 1,315 sq. ft. of floor space.

The Shiffler organization is one of several Chicago area building firms to cooperate in the test program.

James Higgins, manager of the Owens-Corning branch sales office in Chicago, said the builders are chosen carefully because of the "comfort engineering" requirements which must be

met by candidate houses.

About 125 houses throughout the United States now are under construction or are in the planning stage for use in the test, the object of which is to find the average cost of heating and cooling a "comfort engineered" house in all climates of the U. S.

Can Average-Size Home Be Heated, Cooled for \$120?

Owens-Corning expects to answer the question as to whether an average size American home can be heated and cooled for \$120 a year.

The predicted cost of heating and cooling the Naperville house, which is considerably larger than the standard house chosen as the national average

for the test, is \$191.80 for a one-year period, according to Tyler S. Rogers, technical consultant for Owens-Corning. The total is made up of \$153 for heating and \$38.80 for cooling.

When adjusted to the national base average of a 1,200-sq. ft. house, using fuel at 10 cents per effective therm and power at two cents per kilowatt hour, the predicted heating-cooling cost for the Naperville house is \$127.60.

Adjusted Heating, Cooling Cost Set at \$127.60 for Year

"In other words, the predicted heating-cooling cost for the house would be \$127.60 if it were the standard 1,200-sq. ft. dwelling using fuel and power at the national average rates."

Favorable features of the Naperville house, qualifying it for use in the test, include proper insulation, correct placement on the lot to provide maximum shading, and adequate attic ventilation, all in accordance with modern "comfort engineering practices."

These and other features will help reduce heating and cooling costs which could run as high as \$238.40 a year if the Shiffler firm had built the house to meet only the required minimum Federal Housing Authority standards.

Isolate Heating, Cooling Costs from Other Expenses

Separate meters have been installed on the fuel and power lines serving the heating and cooling units of the Naperville house. This allows the city of Naperville, the Public Service Co. of Chicago and Northern Illinois Gas Co., which are co-operating in the tests, to isolate

heating and cooling costs from other household operating expense.

Other candidate houses in the Chicago area will be built in suburban Morton Grove by the Happ Construction Co., in Mt. Prospect by the Alfini Construction Co., and in Deerfield by the Harris Construction Co.

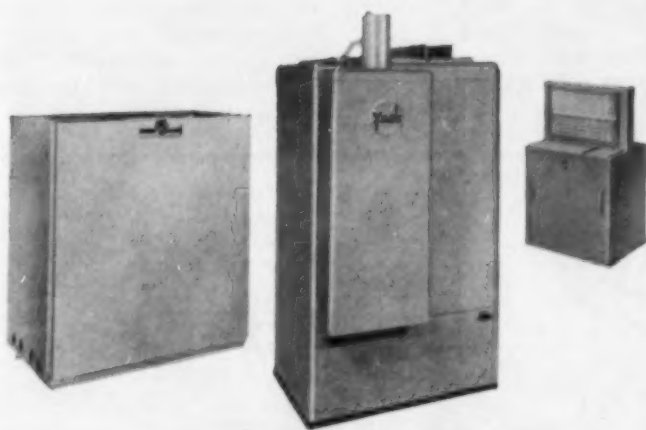
The Naperville house is the first in Illinois and second in the country to be readied for the national program. Other test homes are under construction or in the planning stages in Pittsburgh; Minneapolis; Toledo; Washington, D. C.; Wichita, Kan.; Dallas; Houston, Texas; Memphis; Phoenix, Ariz.; Sacramento, Calif.; and Spokane, Wash.

Candidate homes are under consideration in Louisville, Ky.; Kansas City, Mo.; Boston; New York City; Baltimore; Atlanta; Jacksonville, Fla.; New Orleans; Denver; Los Angeles; Detroit; and other cities.

HOME AIR CONDITIONING DEALERS WANTED!

A leading national magazine reports that 130,000 central units were installed in U. S. homes last year, an increase of 68.5% in one year! This year the sale of home air conditioning is expected to jump to 160,000 units or higher. *There just aren't enough qualified dealers to install that many units!*

CUT YOURSELF IN ON BIG PROFITS WITH YORK'S NEW TRAINING PROGRAM!



Only York, with over 70 years in the cooling field, could bring you such a course! It's designed to get you into the rich residential field fast, and to help you get more out of it once you're in. You'll be taught by top-notch factory-trained experts—men who really know air conditioning.

Don't miss this chance to get in on the ground floor of a booming new industry! Call your nearby York Distributor, or mail the coupon today!

York gives you more . . . more training, more quality, more models, more profits!

- York Home Air Conditioners are engineered and factory-assembled for quick, easy installation. Electrical controls pre-wired at the factory.
- Each cooling system *hermetically sealed*. No belts, pulleys or gaskets. No field charging or tubes to run. Oil and Freon sealed in. Your profits don't go down the drain in costly service calls!
- Simple *capillary tube feed* controls flow of refrigerant. No summer-winter changeovers. Nothing to wear out. No tricky expansion valves to get out of order.
- There's a York Air Conditioner for every need . . . waterless and water-cooled, "add on," year-round, gas or oil-fired, remote systems, handsome packaged units. Across the board, York gives you *more*!

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10 MILLION SQUARE FEET

of ODOR REMOVAL

AREA into a window
Air Conditioner

One Dacor (Disposable Activated Charcoal Odor Remover) actually has 10 million square feet of odor adsorption area, yet slips into the regular dust filter slot. Makes your window cooler a complete air conditioner.

dacor will:

- Remove pollen, dirt.
- Eliminate smog and odors.
- Get rid of tobacco smell, stuffiness.
- Continually clean, purify air in room.
- Let unit run more efficiently.

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name
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quantity profits

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York Corporation, York, Pa.

Tell me how York's new training program unlocks the door to big profits in home air conditioning.

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Company
Address
City Zone State

Federal Names Mason Manufacturer's Agent

WAUKESHA, Wis.—Appointment of Joseph Mason of Jacksonville, Fla. as manufacturer's representative for "Federal" refrigerated cases was announced in Florida, Georgia, and Alabama recently by A. T. Mickle, vice president and general sales manager of Federal Refrigerator Mfg. Co. here. Mason will represent Federal in Florida, Georgia, and Alabama.

Nuclear Lab Circulation, Tenney Establishes Filters Remove 99.5% of Air Borne Materials On Test Equipment

LYNCHBURG, Va.—An elaborate circulation and filtration system literally scrubs the air of particles of nuclear materials in the main building of the Babcock & Wilcox Co.'s new nuclear facilities plant here.

The plant is the first major facility in the nation erected entirely at private expense to manufacture and test nuclear fuel elements and related products for peacetime use, the company said.

Using millions of dollars worth of nuclear materials, which may cost as much as \$11,000 a pound, the plant maintains a continuing search for these special materials down to the last 1/100 of a gram—an amount smaller than a grain of sand.

The fabrication area, for example, undergoes a dozen complete air changes hourly. Seven circulation units draw in more than 100,000 c.f.m. of air.

Exhaust ports at key points in the circulation system are equipped with microscopically-fine filters, which remove 99.5% of airborne materials.

In the critical experiment building and plant laboratories, filter monitoring devices sound alarms and shut down some operations automatically if significant amounts of radioactive gases appear.

Kerr Air Conditioning & Heating Co. Incorporate

AUSTIN, Texas — Kerr Air Conditioning & Heating Co. has recently been incorporated in San Antonio, records in the Secretary of State's office here show.

Capital stock of the company was listed as 10 shares at \$100 a share. Incorporators were Harvey C. Kerr, Wallace M. Kerr, and James S. Kerr. The latter was listed as registration agent with offices at 500 Avenue A, San Antonio.

UNION, N. J.—Tenney Engineering, Inc. here, manufacturer of environmental test and refrigeration equipment, has announced the establishment of a separate engineering section (ES-10) that will offer consultation service on the design of new environmental test chambers and the modification of existing equipment.

Robert H. Brown, Tenney's vice president and recognized as an authority in the environmental test equipment field, has been named to head this section.

Brown emphasized that the new section represented "a unique approach to the solution of all problems encountered in the simulation of climatic and temperature situations."

The prime function of this new engineering section, it was stated, "will be to offer a complete consulting service, from the design stage on through to the manufacture of new environmental test rooms or components for existing applications. Another function of this service will consist of devising new applications and uses for existing chambers."

Tenney engineers, who have developed low temperature cascade refrigeration systems, versatile "packaged" chambers, and "centralized" remote control instrument consoles, "can help provide the answer to such highly specialized and difficult problems as extra-high temperature requirements in range of 1000° F.; the cooling of ram jet engines and associated equipment; simulation of extreme low temperature arctic conditions; extreme rates of evacuation; control flow rates simulating air cooling systems; altitude simulation pressure in range of 300,000 ft.; and similar problems," the company said.

Tenney also offers environmental engineering consultation concerning complex missile evaluation and theory.

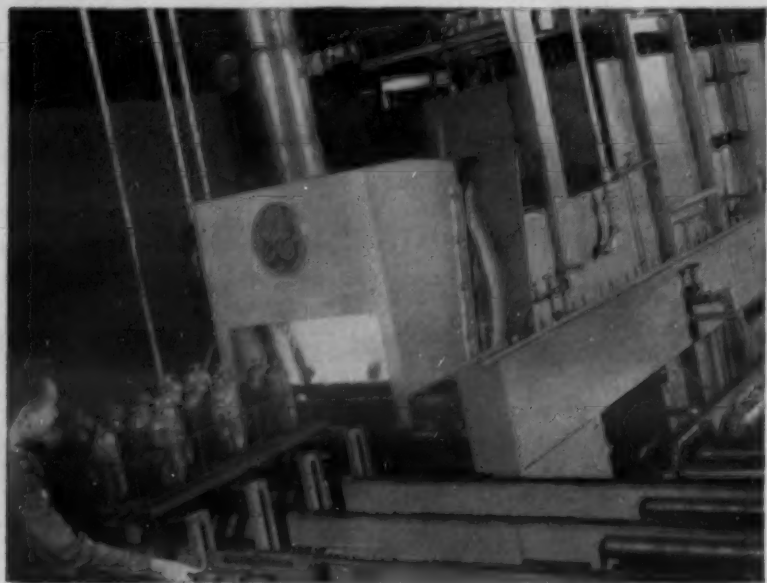
AAF Relocates Sales Personnel of Military, Portable Heater Depts.

LOUISVILLE, Ky.—Sales personnel from the Special Military Products and Commercial Portable Heater Depts., American Air Filter Co., Inc., have moved from Moline, Ill. to Louisville.

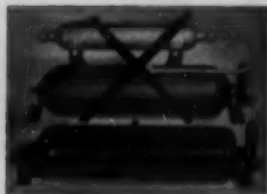
Making the move were George Rodgers, manager of military products; his assistant, James Fish; Robert C. Koehring, manager of commercial portable heaters; and his assistant, Don Pfau.

In announcing the change in location of the two departments, John Hellstrom, vice president and director of sales, commented:

"The move will bring military and portable sales in closer coordination with the other sales departments."



Another reason why TUBE MANIFOLD is America's Largest Manufacturer of LIQUID RECEIVERS



TMC receiver driers save space and time on automotive air-conditioners. Coaxial self-contained design saves space, brackets, fittings and assembly time. Write for data.

This new automatic hydrogen copper brazing furnace is just one of a battery which is turning out thousands of TMC liquid receivers every day. They are typical of the ultra-modern production equipment installed in our new 82,000 sq. ft. plant.

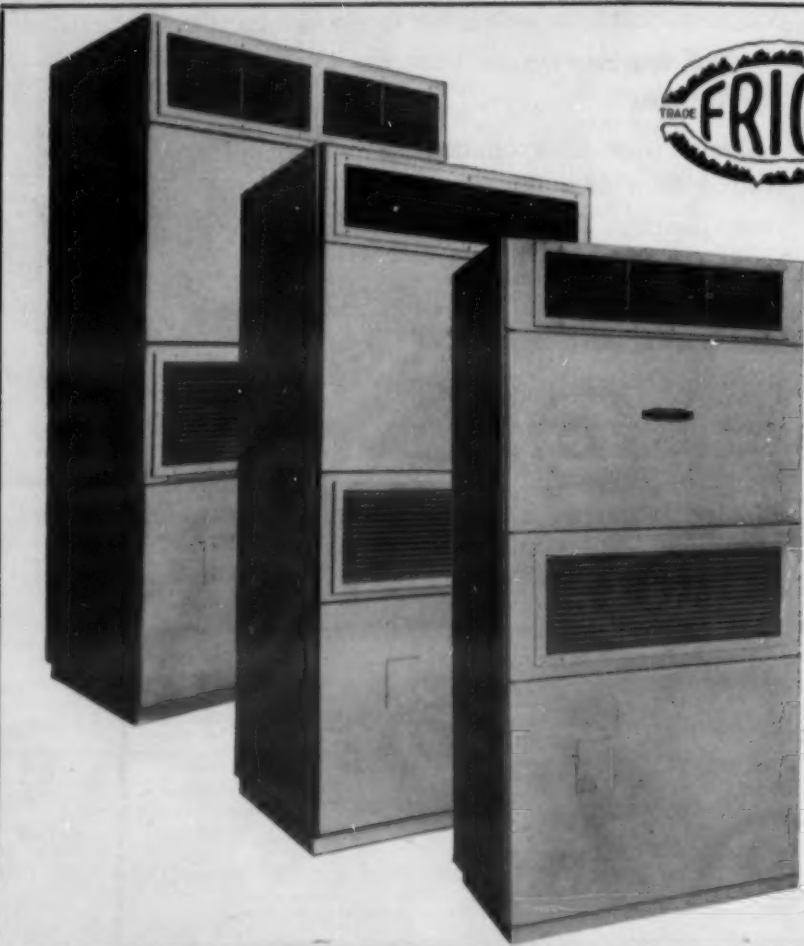
TMC liquid receivers are original equipment on America's foremost refrigerators and household, commercial, and automotive air conditioning systems.

TMC liquid receivers are made in a complete range of sizes for horizontal and vertical installations ranging from 2" to 8" diameter and lengths up to 36". Take advantage of 36 years of Tube Manifold experience and this new high production plant for your 1957 models. Send your specifications and schedules.

TUBE MANIFOLD CORPORATION

Fabricators of Tubular Products
Serving America's Foremost Manufacturers Since 1920

4356 BRYANT STREET NORTH TONAWANDA, N. Y.



Unit Air Conditioners

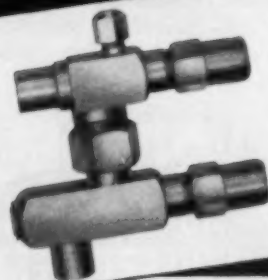
Have built into them 50 years' experience in conditioning air, 74 years' experience in refrigeration, and 103 years of successful engineering. Frick unit air conditioners installed in 1938 are still in service — and good for a long time to come.

These superior units are furnished in sizes of 3, 5 and 7 1/2 hp. They have heavier (quieter) cabinets, well insulated; larger cooling surfaces; insulated condensers; conservative ratings; and many other advantages. All are shown in Bulletin 522. Your copy is waiting: write today.

Some desirable territories still open for qualified Distributors.



Air Conditioning Break-Away VALVES



for units used in -

Homes



Stores



Office Buildings



This NEW Primore Break-Away Valve is specially designed for remote air conditioning installations. Assures fast, positive connection of tubing from evaporator to condensing unit.

- No Field Pre-assembly
- No Field Cleaning
- No Field Soldering

NO FIELD CHARGING

Condensing unit, evaporator and refrigerant tubing are all pre-charged, ready for hook up. Will not lose charge.

WRITE FOR PRIMORE'S COMPLETE VALVE CATALOG



for Household and Commercial Refrigeration, Residential and Automotive Air Conditioning

Primore Sales, Inc.,

310 National Bank Building
Adrian, Michigan

designing • sales • engineering

Better Heating-Cooling Survey**Shows Women Want Air Conditioning, Find Faults in Heating Systems**

NEW YORK CITY—If a home is uncomfortable is it the fault of the heating system or the construction of the house?

That was one of the questions asked in a spot survey of the 103 delegates attending the Women's Housing Congress, held recently in Washington, D. C., under the sponsorship of the Housing and Home Finance Agency. The housing congress was called by HHFA to get first hand information from representative housewives on preferences in modern homes and construction features.

Since heating and air conditioning were not on the formal agenda during the two-and-a-half day affair, the Better Heating-Cooling Council undertook its own survey of the delegates and came up with some surprising answers.

The council is a national educational and informational organization supported by more than 40 major manufacturers of heating and air conditioning "wet system" equipment.

Most Women Knew What Heating System They Had

Surprisingly, most of the housewives knew pretty well what kind of heating system they had in their homes, and thought they knew whether they were satisfied with its performance. But when it came to fixing the blame for cold floors and corners, drafts from windows, dust and other conditions, many of the respondents blamed poor house construction, instead of the real culprit: the quality of the heating system and whether or not it had been installed properly.

Another finding showed that of the 36 delegates whose homes were heated with hot water or steam, nearly 100% were satisfied with the comfort conditions maintained by water-fed systems. The lone exception appeared to stem from a heat distributor that was improperly connected, but could be remedied, according to the council's report.

Nature of the Complaints

On the other hand, of the women who had heating systems other than hot water or steam, approximately 46% expressed dissatisfaction with some aspect of its operation.

One delegate said she didn't dare put her baby on the floor because the floors were too cold. She erroneously attributed this condition to poor construction of the house. Another complained of dust and dirt, and a third said her system blew "hot and cold."

A Louisville, Ky., homemaker indicated that there were bad drafts in front of the windows, but attributed this to the windows themselves. It was pointed out to her that proper design and placement of heat distributors—under the windows or along the window walls—would compensate for drafts and offset the heat loss through the windows.

A common irritation was voiced by a Mississippi housewife. She said her family's feet

were always cold when the air at the top of the room was hot.

Air conditioning came in for some discussion at the conference. Only 15% of the housewives polled said they had air conditioning at home. Another 15% said they'd like to have it.

One housewife stated that she had a new-type hot water-chilled water system that maintained even temperature and controlled humidity the year-round.

Another woman felt air conditioning was a special necessity for her home because of her husband's sinus condition.

In general, many delegates felt that they would like provision made in their "dream house" for air conditioning.



OFFICIALS of the Better Heating-Cooling Council are shown mapping plans for the "Queen Comfort" beauty contest, one of the Council's industry-wide promotion campaigns to boost sales of wet heating and cooling systems. Discussing details are, left to right, Frank Brophy, Lin Hartell and Samuel S. Tyndall, Franklin Greene, and John Adams.

Armstrong Duct Sizing Calculator, Heat Gain Manual Available

COLUMBUS, Ohio—An easy to use, time-saving duct sizing calculator and instruction manual for heat gain calculation and air duct sizing are now available through Armstrong Furnace Co.

The instruction manual, which has a pouch on the back cover for the calculator, gives a complete explanation of how to use the calculator. It also explains in detail how the dealer should go about making a heat gain calculation.

The manual is written in a way easy to understand.

The calculator is available to Armstrong wholesalers at a cost of \$1.50. The manual is given free with each calculator purchased.

Heat-Well
Forced Air
Gas Furnace.

FOR

All types

OF WEATHER

In building America's First All-Assembled Welded Furnace, the Heat-Well Manufacturing Co. has taken great care to see that each assembly and individual part is finely engineered, with the objective of rendering the maximum reliability, long life, low owning cost and economical operation.

With this policy, plus the thorough flame, fan and limits control tests, it is little wonder that their forced air gas furnaces rank so high.

"FOR ALL TYPES OF WEATHER" — it has been Morrison's pleasure to work with original equipment manufacturers in building products for the distribution of conditioned air for the greatest comfort and well being.

Morrison Blower used in Heat-Well Furnaces.



MORRISON PRODUCTS INC.

16816 WATERLOO RD.
CLEVELAND 10, OHIO

Refrigeration Problems And Their Solution

By Paul Reed

For Service and Installation Engineers



Comparison of Refrigerants 12 & 22

(Continued)

SUCTION LINE

Then there is the suction line. The 3-hp. 12 unit would use a 1 1/8-in. o.d. suction line up to 75 or 100 ft., so the suction line for a 5-hp. 12 unit would be about two thirds larger than a 1 1/8, or about a 2 1/8-in. tube.

However, it would be only about five eighths as large for 22, so the suction line for the 5-hp., 22 unit could be expected to be a 1 1/8-in., the same as for

the 3-hp., 12 unit, but there is another consideration.

This brings us to another outstanding difference between 12 and 22, namely, their miscibility with oil.

In liquid form, 12 mixes very readily with mineral oil at all temperatures, in the receiver, liquid line, and evaporator. This is true of 22 at the higher temperatures in the receiver and liquid line, but in evaporators at about 30° F. and below, 22 separates out from the oil, in much the same manner that sulphur dioxide does, and separation becomes more pronounced the colder the evaporator.

Therefore, it is advisable to

use a higher velocity of gas in the suction line to keep the oil moving along back to the compressor. So instead of using a 1 1/8-in. o.d. suction, it is better practice to use a 1 3/8-in. o.d. suction line.

In fact, if it is necessary for the suction line to rise more than 5 or 6 ft., it is good practice to drop to the next smaller tubing size, that is, a 1 1/8-in. o.d. line, for the rise, and then go back to the 1 3/8-in. when the suction line levels out or starts downward again. The reduced size gives the additional gas velocity necessary to move the oil over the rise.

In a paper "Lubricants for 'Freon-22' Refrigerating Machines" presented before the 9th International Congress of Refrigeration last year, Dr. Heinz Steinle of Robert Bosch Co. of Stuttgart, Germany, suggests the use of butylic ether of silicone as a refrigerant in 22 systems. His experiments indicate

TABLE 8—Comparison of Power Requirements of 12 and 22

	12	22
Horsepower Per Ton (theoretical)	1.002	1.011
Horsepower Per Ton (in practice)	1.8 to 2.1 for either	
B.t.u. Per Watt (theoretical)	16.54	15.78
B.t.u. Per Watt (in practice)	5 to 6 for either	

Above at Standard Ton Conditions

TABLE 9—Factors Affecting Relative Leak Tendency of 12 and 22

	12	22
Molecular Weight	120.9	86.48
Square Root of Molecular Weight	11.0	9.3
Inverse Ratio 11.0/9.3 118%		
Suction Pressure at 5°	P.s.i.g. 11.8	28.3
Ratio 28.3/11.8 = 264%		
224% × 118% = 264% or about 2 1/2 times		
Condensing Pressure at 86°	P.s.i.g. 93.2	159.8
Ratio 159.8/93.2 = 172%		
172% × 118% = 203% or about twice		

that it is miscible with 22 in all proportions, even at ultra-low temperatures. Other properties were: excellent lubricating value, stability toward materials ordinarily used in construction, and no evidence of copper plating.

HORSEPOWER PER TON

In discussing capacities, displacement, and horsepower, we have made no mention of efficiency, that is, the relative power used by these two refrigerants to furnish the same amount of refrigeration. The reason for not mentioning this is that, for most practical purposes, there is not enough difference to be of consequence.

In fact, there is very little difference between the horsepower per ton of any of the commonly used refrigerants. Refrigerants are not chosen, and do not become popular because of significant savings in power required to produce refrigeration.

Refrigerants are chosen mainly on the basis of safety, stability, saturation pressures, displacements, oil solubility, and similar factors; and last, but by no means least, because of original cost.

LEAKAGE TENDENCY, 12 VS. 22

This point is perhaps as good a place as any to bring up the subject of leaks. It is sometimes said that 22 is harder to hold than 12, that leaks are more common with 22 than 12, and that 22 leaks are more difficult to find than 12 leaks. Do these rumors have any basis of fact?

Scientists tell us that for the same hole, escapability of a refrigerant depends on the size of the molecule, and that this depends upon the molecular weight of the fluid. More specifically, that the tendency to leak varies inversely as the square roots of the molecular weights of the refrigerants.

The molecular weight of 12 is 120.9, the square root of which is approximately 11. The molecular weight of 22 is 86.48, whose square root is approximately 9.3. Then, 11 divided by 9.3 is 118%, so 22 is 18% more likely to leak from a very small hole than 12, if the pressure is the same.

Moreover, the pressure of 22 is much greater than that of 12 at the same temperature. At 5° evaporating, the pressure of 22 is 28.3 p.s.i.g., and of 12, 11.8 p.s.i.g.; 28.3 ÷ 11.8 is 244%. If we increase this by 18%, it becomes 264%. That is, on the low side at 5°, 22 is about 2 1/2 times as apt to leak as 12.

The difference in leak tendency between 12 and 22 is proportionately less on the high side than on the low side. This sounds odd until we remember that we are talking about differences in refrigerants. Of

(Continued on next page)



Suniso Refrigeration Oil—all ways good

Even on the shelf the Suniso can indicates its superiority. Take it down, look at the crystal-clear directions on the back, and you're even more certain you've found the perfect refrigeration oil. Better yet, use it on your next job; then you will be convinced. Suniso is the quality oil—

SPECIFIED by nearly all original equipment manufacturers.

NON-WAXING—FOAM-RESISTANT, unexcelled for all low-temperature applications.

WITH UNMATCHED STABILITY under all conditions of refrigerant dilution, heat and pressure.

AND YOUR FAVORITE WHOLESALER HAS IT!

Suniso is distributed nationally by VIRGINIA SMELTING CO., 129 Jefferson St., West Norfolk, Va.



ESOTOD • KINETIC CHEMICALS' "FREON" REFRIGERANTS
V-METH-L • CAN-O-GAS • PERMAGUM • PRESSTITE TAPE
SUNISO REFRIGERATION OILS
KWIKWRAP • WATER TREATMENT CHEMICALS
Available in Canada and many other countries

Refrigerants--

(Continued from preceding page)

course, due to the higher pressures, high-side leaks are more likely to occur with either refrigerant.

At 86° condensing, the head pressure for 22 is 159.8 p.s.i.g., and for 12, 93.2 p.s.i.g., a ratio of 172%. Multiplying this by 118%, we get 203%; so theoretically high-side leaks are about twice as likely with 22 as with 12.

22 LEAKS HARDER TO FIND?

There have been rumors that it is more difficult to find leaks of 22 than of 12; that the halide torch is less sensitive to 22 than to 12, and that in general, it is more difficult to trace down leaks of 22 than 12.

Investigation indicates that this does not appear to be based on fact. It apparently arose from the following conditions:



PREST-O-LITE

Trade-Mark

Halide Leak Detector

... reacts instantly with pin-point accuracy

Here's a leak detector that is especially designed to speed the location of halide refrigerant gas leaks that are too small to detect with soapy water. Available to servicemen and engineers in two handy kits.

The B Tank Outfit is particularly useful where testing space is limited. The leak detector is connected to the acetylene fuel tank by means of an extra long hose to enable you to reach into corners or between pipes while you leave the tank outside. Instantly detects as little as 100 parts of halide gas in a million parts of air.

Smaller, lighter in weight, and even more compact, the MC Tank Outfit offers the same pin-point accuracy yet can be carried from job to job more easily.

Ask your nearby LINDE Jobber to demonstrate today. Or, if you wish further information, write: Linde Air Products Company, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Linde Air Products Company, Division of Union Carbide Canada Limited, Toronto.

Get it from your
LINDE Jobber

The terms "Linde" and "Prest-O-Lite" are registered trade-marks of Union Carbide and Carbon Corporation.

1. 22 is more likely to leak than 12, and where there are more leaks, more are likely to escape detection.

2. The manufacturer of one of the well known halide torch leak detectors changed his design a year or so ago, and the color of the flame is somewhat different with the new torch. This may have contributed to the rumor.

3. An oily spot usually indicates a leak; for the refrigerant evaporates and leaves no trace, while the oil remains. However, as mentioned previously in connection with suction line sizing, oil separates from 22 at the lower temperatures. It is therefore quite possible that on cold low sides and even suction lines, 22 that leaks out may not be carrying oil, so leaves no oil spot. If we become accustomed to checking a system by means of oil spots, we may overlook some 22 leaks.

All indications are that 22 leaks are no more difficult to detect than those of 12. In fact, since 22 is more likely to leak, it should be easier to find 22 leaks.

(To Be Continued)

Philadelphia ASRE Honors Dr. Ross for Service to Region 2

PHILADELPHIA—Upon his retirement as director of Region II, Dr. Edgar A. Ross was honored by the Philadelphia Section of the American Society of Refrigerating Engineers at a recent meeting of the group.

Gus. Lawrence, section chairman, presented Dr. Ross with a gift in appreciation of his outstanding service to ASRE and as director of Region II.

Dr. Ross, Development Div. manager for Sun Oil Co., is a well-known authority on refrigeration oils. He has a long service record in the industry and the ASRE and is one of the outstanding members of the Philadelphia Section, it was pointed out.

Also during the meeting, the section officers were installed for the 1956-1957 term.

The officers are chairman, Ted Silary, application and sales engineer for Sporlan Valve; first vice-chairman, Ted McLaughlin, president of Refrigeration Engineering; second vice chairman, John J. Seelaus, application and sales engineer, York Corp.; secretary, Walter Speigel, consulting engineer with Charles Leopold; treasurer, William Mullin, development engineer, Philco Corp.

Robb Now at Wolverine General Sales Offices

DETROIT—Sam Robb has assumed new responsibilities in the general sales offices of Wolverine Tube, Div. of Calumet & Hecla, Inc., announced J. M. Dumser, director of sales for Wolverine Tube.

Formerly a Wolverine sales representative in the New York area, Robb has been associated with the company for the past 22 years.

Hospital To Be Cooled

CLARKSVILLE, Ark.—The Clarksville Hospital, which has a patient capacity of 50 beds, is being air conditioned.

Tube Manifold Reports Opening of New Plant

NORTH TONAWANDA, N. Y.—Tube Manifold Corp., fabricator of tubular products, announces the opening of a new plant covering 82,000 sq. ft. of manufacturing space together with new manufacturing equipment.

The equipment includes the latest type automatic hydrogen copper brazing furnaces, a complete conveyerized materials handling system, and other facilities providing a continuous flow, one-floor production layout, according to Dean M. Rockwell, vice president and general manager.

Tube Manifold was established in 1920 and has been a supplier to the automotive, refrigeration, air conditioning, and other industries requiring pressure cylinders, liquid receivers, and disposable and refillable containers for the aerosol field, as well as specialized products on a high production contract or original equipment basis, it was pointed out.

Facilities of the new plant include automated equipment for silver brazing, heat treating, salt bath, spot welding, stamping, sand blasting, induction, machining, pressure testing, grinding, tube spinning, bending, welding and brazing, and baked-on paint finishing.



WEATHERTRON air source heat pump provides year-round comfort for main office staff of Harry Alter Co.

New Harry Alter Office Building Equipped with Air Source Heat Pump

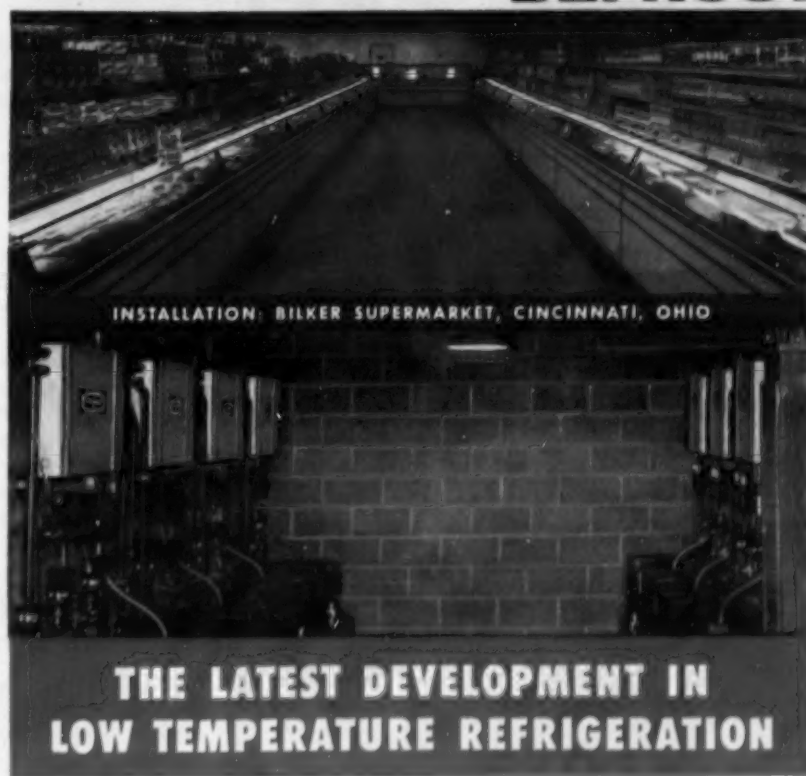
CHICAGO—When Harry Alter, president of the Harry Alter Co., decided on a new building for his main office force, he asked A. Epstein & Sons, leading Chicago architects, to design the most functional unit possible.

In the planning of heating and air conditioning, all available methods were investigated. The air source heat pump best met all the rigid requirements. The General Electric "Weath-

ertron," an air source heat pump for heating and cooling from a single unit, was selected.

"It uses no fuel or water and functions on air and electricity alone. Due to the fact that no combustion takes place in the heating process, the old-fashioned chimney is eliminated. Also, there are no fuel storage problems, no combustion gas or fuel odors. Costs for the installation compare favorably to conventional type systems."

ELECTRIC Heat-Cel* AUTOMATIC DEFROST



INSTALLATION: BILKER SUPERMARKET, CINCINNATI, OHIO

THE LATEST DEVELOPMENT IN LOW TEMPERATURE REFRIGERATION

- *Heat for re-evaporation supplied by low wattage, long life electric heater.
- *Positive, consistent, economical.
- *Performs efficiently in any ambient, regardless of location or season.
- *Independent of compressor operating time or type (air or water cooled).

- *No special controls needed for winter-time operation.

- *Patented DOLE VACUUM principle insures faster heat transfer for quicker defrosting. Convenient "plate" design allows flat-against-wall mounting.

Defrosting "Kit" includes Heat-Cel and Accessory Package containing all necessary controls

DOLE REFRIGERATING COMPANY

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In Canada: Dole Refrigerating Products Limited, 44 Elgin Street, Brantford, Ontario

Write for Engineering Catalog DE.



"HEART OF THE SYSTEM"

* Approved by Underwriters Laboratories



Penn Controls Forms New Export Division

GOSHEN, Ind.—Penn Controls, Inc. has announced the establishment of a new Export Div. which will handle international sales and distribution for the control manufacturing company.

The new Export Div. will headquarter in the New York area at 8111 Bergenline Ave., North Bergen, N. J.

E. B. Maire, Penn's vice president-director of sales, announced the creation of the new division and the appointment of Max A. Coreth as manager.

Coreth was with various scientific and technical operations of the Navy Department.

Honeywell Names Seidel to New Post

MINNEAPOLIS — Glenn E. Seidel has been appointed to the newly-created corporate position of vice president in charge of engineering for Minneapolis-Honeywell Regulator Co., Paul B. Wishart, president of the local firm, announced recently.

Seidel has been a member of Honeywell's engineering organization for nearly 14 years and since 1952 has been vice president in charge of engineering in all of the firm's Minneapolis plants.

In his new position, he will have responsibility at the top-management level for coordinating and directing research and engineering activities throughout the corporation, Wishart said, and will represent these activities in corporate plans and decisions.



S. E. SWEET



E. W. ELLINGEN

Sweet Is Gibson Executive Vice Pres.

GREENVILLE, Mich.—C. J. Gibson, Jr., president of Gibson Refrigerator Co., division of Hupp Corp., has announced the appointment of S. E. Sweet, formerly vice president in charge of private brand sales, to executive vice president of Gibson Refrigerator Co.

Sweet takes over the position vacated by A. M. Gibson who died suddenly May 1. Sweet has been with the Gibson Refrigerator Co. 22 years, and was responsible for building the company's private brand business, Gibson said.

Gibson also announced the appointment of J. L. Johnson as vice president and general sales manager.

Johnson was formerly vice president and general manager of the Gibson Div. and concerned himself with the sale of Gibson products, domestic and international.

Gibson said that under the new setup, Johnson will direct all commercial sales of the Gibson Refrigerator Co., including the Private Brand and Service Divs. Johnson's added responsibilities represent a major step in consolidating all sales under a single head, he said.

Johnson immediately announced two organizational changes. W. C. Conley, vice president in charge of Gibson sales, will direct the sales of the commercial and residential air conditioner department. Earl Palmer is manager of the Commercial and Residential Air Conditioner Div.

Johnson also appointed E. W. Ellingen as manager of brand sales, succeeding Sweet. Ellingen has been associated with Gibson Refrigerator Co. for many years and has been in the private brand department for the past six years.

Manitowoc Appoints Broadwell Distributor

MANITOWOC, Wis.—Ray G. Frederickson, manager of field sales, Manitowoc Equipment Works, announced recently that negotiations have been completed with James P. Broadwell, president of Broadwell & Co., St. Louis, for distribution of the complete line of Manitowoc upright freezers in the southern Illinois and eastern Missouri areas.

They Won't Be Home

The companies listed below have notified the NEWS that their plants and/or offices will shut down for vacations during the periods shown in the center columns.

The right hand column indicates whether the plant will continue regular shipments during the shutdown period, emergency shipments only, will ship stock items only, or will make no shipments at all.

When offices will operate with a skeleton staff during plant shutdowns that fact is noted in the "office" column.

This list applies to vacation shutdowns beginning

Prior to JULY 10

Plants with later vacation periods will be listed in coming issues of the NEWS. As the names below will not be repeated, we suggest you CLIP and SAVE this list for future reference.

Company	Shutdown Period	Plant	Office	Shipments From Plant
American Air Filter Co.	6/29-7/16	None	None	Regular
Illinois Engineering Co.	7/9 -7/20	None	None	Regular
Bard Mfg. Co.	7/2 -7/14	7/2 -7/14	7/2 -7/14	Emergency
The Brundage Co.	7/2 -7/8	7/2 -7/8	7/2 -7/8	Emergency
Conco Engineering Works	6/30-7/15	None	None	Emergency
Cory Corp.	7/9 -7/22	None	None	Stock Only
Dean Products, Inc.	7/2 -7/15	7/2 -7/15	7/2 -7/15	Emergency
Flexible Tubing Corp.	6/30-7/10	6/30-7/10	6/30-7/10	None
Furnas Electric Co.	7/2 -7/15	7/2 -7/15	7/2 -7/15	Emer.-Stock
General Controls Co.	7/2 -7/15	None	None	Emergency
H & H Tube & Mfg. Co.	7/1 -7/15	7/1 -7/15	7/1 -7/15	Emergency
Jacks-Evans Mfg. Co.	6/22-7/8	6/22-7/8	6/22-7/8	Emergency
Janitrol Div., Surface Combustion Corp.	7/9 -7/20	7/9 -7/20	7/9 -7/20	Stock Only
Kason Hardware Corp.	7/2 -7/14	7/2 -7/14	7/2 -7/14	None
Kirsch Co.	6/25-7/8	6/25-7/8	6/25-7/8	None
Marco Industries, Inc.	7/9 -7/15	7/9 -7/15	7/9 -7/15	Emergency
Maurey Mfg. Corp.	6/29-7/13	6/29-7/13	6/29-7/13	Emergency
McIntire Co.	6/29-7/9	None	None	Emer.-Stock Only
Metals & Controls Corp.	6/29-7/15	None	None	Emergency
Mueller Climatic	6/25-6/29	7/2 -7/6	7/2 -7/6	None
Penn Controls, Inc.	6/29-7/15	6/29-7/15	6/29-7/15	Emer.-Stock
Revere Copper & Brass Co.	7/1 -7/8	7/1 -7/8	7/1 -7/8	Stock Items Only
Los Angeles Plant	7/1 -7/15	7/1 -7/15	7/1 -7/15	Stock Items Only
Others except Chicago Foil	7/1 -7/15	7/1 -7/15	7/1 -7/15	Stock Items Only
Rochester Products Div., General Motors Corp.	6/25-6/29	None	None	None
Simpson Electric Co.	6/30-7/15	6/30-7/15	6/30-7/15	None
Stackpole Carbon Co.	6/29-7/8	6/29-7/8	6/29-7/8	Regular
Thatcher Furnace Co.	6/29-7/15	None	None	Regular
Viking Air Conditioning Div., National-U.S. Radiator Corp.	6/29-7/15	Partial	Partial	Stock Only
Viking Copper Tube Co.	6/29-7/8	6/29-7/8	6/29-7/8	None
York-Shipley, Inc.	6/29-7/8	6/29-7/8	6/29-7/8	Emergency
Young Radiator Co.	7/9 -7/22	7/9 -7/22	7/9 -7/22	None

Crosley and Bendix Names W. W. Cox

CINCINNATI — William W. Cox has been appointed administrative assistant to Chester G. Gifford, president of Crosley and Bendix Home Appliances Divs. of Avco Mfg. Corp.

Among Cox's new duties are those of budget director for the divisions. Formerly controller for financial planning, he joined Crosley in November, 1950, as cost accounting supervisor.

Amana Appoints Ecco, Inc. In Kentucky-Indiana Area

AMANA, Iowa — Ecco, Inc., Louisville, Ky., has been named to distribute Amana Refrigeration products in central Kentucky and 12 counties in southeastern Indiana.

The new distributorship is headed by Dan C. Ewing, president, who will direct the Amana operation, it was recently announced.

FRIGIDAIRE ICE CUBE MAKER DEALERS ATTENTION

Add-A-Bin Ice Storage Unit

made especially for
200 lb. Frigidaire Ice Cube Maker
to store 400/500 lbs.

MODEL 400N

Insulated — stainless steel interior — drain — slant opening with sliding doors.

Length 45" — height of bin 27" — legs 3" — depth 34".

To be mounted on the cube maker. No cutting of the floor of the bin is needed because of a special insulated chute.

Plenty of repeat orders from satisfied Frigidaire dealers, for over three years.

A Dunhill Product.

Inquiries invited for bins for other cube makers.

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National Sales Office

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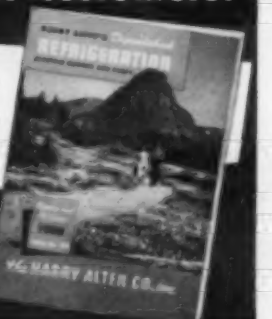
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- REFRIGERATOR FREEZER COMBINATION
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- Full 350 lb. Freezer Below
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- Built-in Storage Compartments in Both Doors
- Refrigerator Liner is Porcelain
- No Defrosting



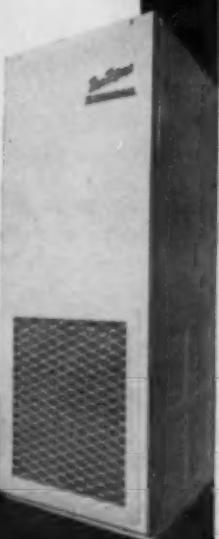
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Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

ARMY

Quartermaster Research & Development Command, Purchasing Branch, Natick, Mass.
MODIFICATION OF EXISTING AIR CONDITIONING Engineering Building at Research & Development Center, U. S. Army, Natick, Mass. Dwg. Nr PE-100-28 and specifications are available.—FB QM 19-129-56-51 B—Bid Opening 26 June 56.

Purchasing and Contracting Officer, Fort Stewart, Ga.
REPAIRS AND ALTERATIONS TO COLD STORAGE PLANT, Drawing No. BA 292, 1-9 available.—Job-IFB 09-076-56-71—Bid Opening 28 June 56. No telegraphic bids accepted.

AIR CONDITIONING POST CHAPEL No. 3, Drawing No. BA310 available.—Job-IFB 09-076-56-76—Bid Opening 27 June 56. No telegraphic bids accepted.

Contracting Office, Fort Eustis, Va.
AIR CONDITIONING for four (4) Classrooms, Bldg. P-2850, Fort Eustis, Va.—Job-IFB 44-019-56-204—Bid Opening 26 June 56.

Quartermaster Research & Development Command, Purchasing Branch, Natick, Mass.

AIR CONDITIONING EQUIPMENT, Research Bldg. at QM Research & Development Center, U. S. Army, Natick, Mass.; Dwg. Nr PE-100-30 and specs. are available.—Job-IFB QM 19-129-56-49 B—Bid Opening 26 June 56. Bid sets available until 16 June 56 unless previously exhausted.

Procurement Division, Mobile Air Materiel Area, Brookley Air Force Base, Ala.
AIR CONDITIONING AND ALTERATIONS Bldg. 14A Section B, Brookley Air Force Base, Ala.—Job-IFB 01-601-56-519—Bid Opening 26 June 56.

Purchasing and Contracting Branch, Ft. Campbell, Ky.
AIR CONDITIONING THREE CHAPELS, including plumbing carpentry, interior and exterior painting, interior and exterior elec. work, installation of weather stripping in exterior windows and doors. Three quarter horsepower window air conditioners to be installed as indicated on Post Engineer Dwg. No. 2628—Job-IFB NA-56-3B—Bid Opening 6 July 56.

NAVY

District Public Works Office, Fifth Naval District, U. S. Naval Base, Norfolk, Va.

REHABILITATION OF HEATING SYSTEMS at Naval School (Mine Warfare), Yorktown, Va. Deposit of \$25 required for plans and specs.—Job-IFB 93604—Bid Opening 26 June 56.

COLD STORAGE BLDG. at Naval Air Facility, Weeksville, N. C. Deposit of \$25 required for plans and specs.—Job-IFB NOY 91332 Spec. Nr 48267—Bid Opening 28 June 56.

Office in Charge, Naval Base Training Command, Pensacola, Fla.
AIR CONDITIONING OF CERTAIN AREAS IN BUILDING 625A and Building 633 NAS Pensacola, Fla.—Job-IFB 46110 B—Bid Opening 28 June 56.

District Public Works Office, Fifth Naval District, U. S. Naval Base, Norfolk, Va.

INSTALLATION OF AIR CONDITIONING EQUIPMENT BLDG. 104 at Naval Hospital, Portsmouth, Va. Deposit of 25 dollars required for plans and specs.—Job-IFB NBY 3621—Bid Opening 26 June 56.

District Public Works Office, Fourth Naval Dist., Building No. 1, Second Floor, U. S. Naval Base, Philadelphia, Pa.

INSTALLATION OF AIR CONDITIONING Office of Inspector of Naval Material, Reading, Pa. \$10 deposit required for plans and specs.—Job-IFB 4788/56B—Bid Opening 28 June 56.

Navy Purchasing Office, 4th & Independence Ave., Washington, D. C. Attn: SPF-1A.

The following items are procured under IFB 600-1903-56-S—Bid Opening 5 July 56.

COILS, CHILLED WATER COOLING, Type A, Duct, sizes 43 DW, 45 DW, and 46 DW, 49 ea.—UNIT COOLER, CHILLED WATER, Type B, size 41 UW, W/115 V. AC, Motor, 7 ea. Per Spec. MIL-A-2939B(Ships) dated 27 Aug. 1953 and Amend. 4 dated 3 Jan. 56 as modified in invitation. The Material under this specification is of a type on the Navy Qualified Products List.

AIR FORCE

Procurement Division, Mobile Air Materiel Area, Brookley Air Force Base, Ala.
AIR CONDITIONING AND ALTERATIONS Bldg. 14A, Section B, Brookley Air Force Base, Ala.—Job-IFB 01-601-56-519—Bid Opening 26 June 56.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 3, Business Service Center, 7th & D Sts., S.W., Washington 25, D. C.
AIR CONDITIONING SYSTEMS—2 ea.—IFB FNW-3H-66417-A—Bid Opening 7-6-56.

Business Service Center, General Services Admin., Region 6, 2306 E. Bannister Rd., Kansas City, Mo.

AIR CONDITIONING COURT ROOM, at U. S. Post Office, Wichita, Kan.—Job-IFB CR 1676—Bid Opening 6-28-56.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Ill.

ELECTRIC WATER COOLERS, Fed. Spec. OO-C-566c—543 ea.—IFB CHN-2235—Bid Opening 6-28-56.

PARTIAL INTERIM AIR CONDITIONING at the U. S. Post Office and Courthouse, Lafayette, Ind.—Job-IFB C&R 218—Bid Opening 6-28-56.

Business Service Center, General Services Administration, Region 8, Bldg. 41, Denver Federal Center, Denver 2, Colo.

AIR CONDITIONING FIFTH FLOOR COURTROOM Court House Albuquerque, N. Mex.—Job-IFB 454-7—Bid Opening 6-28-56.

General Services Administration, Region 7, Business Service Center, 1114 Commerce, Dallas, Texas.

AIR CONDITIONING COURTROOM AND JUDGE'S CHAMBERS, U. S. Post Office & Court House, Galveston, Texas—Job-IFB CR7564-400—Bid Opening 29 June 56.

AIR CONDITIONING, X-RAY DEPARTMENT AND PHYSICAL THERAPY, U. S. Public Health Service Hospital, Galveston, Texas—Job-IFB CR7563-308-R—Bid Opening 29 June 56.

U. S. POST OFFICE DEPARTMENT

Chief of Procurement, Bureau of Facilities, Post Office Department, Washington 25, D. C.

AIR CONDITIONING UNITS, 10-ton, water cooled, 208 volts, 3 phase, 60-cycle—4—IFB 2233—Bid Opening 25 June 56.

COOLING TOWERS, 75-ton, for use with air conditioning equipment—4—IFB 2234—Bid Opening 25 June 56.

CONDENSING WATER PUMPS—use with air conditioning equipment—2—IFB 2235—Bid Opening 25 June 56.

NOTICE TO SMALL FIRMS

Headquarters, Oklahoma City Air Materiel Area, Tinker Air Force Base, Oklahoma City, Okla. Attn: Procurement Division OCPBB.

AIR CONDITIONING OF ADMINISTRATIVE SPACES Building Nr S-8, Tinker Air Force Base, Oklahoma City, Okla.—IFB 34-601-56-5731 B—Bid Opening 26 June 56.

Money Moves May Mean More Expansion As Credit Picture Eases

NEW YORK CITY—Further moves in the money market last week were viewed in financial circles as likely to provide "easier credit" and more money for business expansion.

One specific move was a cut in the rate on bankers' acceptances. These are credit instruments covering domestic shipments, and imports and exports. It was said to be the first easing in these rates since the mid-April hike in the Federal Reserve System discount rates.

FTC Schedules Midwest Unfair Trade Practice Air Conditioner Demand Hearings on Complaints Against Ice Cream Firms Rockets Electricity Use

CLEVELAND — Hearings on Federal Trade Commission complaints of unfair trade practices, including the "give away" of refrigeration and air conditioning equipment, against several ice cream companies will be conducted in six midwestern cities within the next three weeks.

The schedule is as follows, with all hearings starting at 10 a.m.:

June 26-27, Chicago, Room 1310, 226 W. Jackson Blvd.

June 28, Des Moines, Iowa, Room 425, Federal Office Bldg., Fifth & Court Ave.

June 29, Omaha, Neb., North Court Room, U. S. Post Office, 16th & Dodge Sts.

July 2, Rapid City, S. D.
July 16, Cincinnati, U. S. Post Office & Court House.

July 17-18, Kansas City, Mo., Room 302, Federal Office Bldg., 911 Walnut St.

Ray Kromer, executive vice president of the Refrigeration and Air Conditioning Contractors Association, which has been active in gathering evidence of such "give away" practices, reported that the hearing examiner has declined to subpoena the ice cream manufacturers' documents and records.

He urged members to appeal to the FTC to require him to subpoena such records "that the testimony may be complete."

NEW YORK CITY—Millions of air conditioners and fans were switched on in an effort to beat the heat two weeks ago, rocketing electricity use to the highest summertime level.

To meet the demand for extra power, the utility industry distributed 11,425,000,000 kwh. of electricity, the Edison Electric Institute reported.

This demand was only 2% less than the record 11,614,000,000 during the 1955 pre-Christmas week, it was noted.

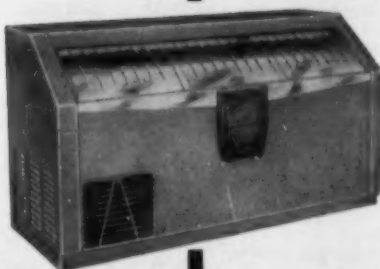
"If air conditioning demand continues to increase," said a spokesman for EEI, "it may not be long before the dip in summer power sales disappears."

COMPARE FIRST...CHOOSE LACROSSE

NEW DRY STORAGE BEVERAGE COOLERS

BARS
CLUBS
HOSPITALS

HOTELS
TAVERNS
SCHOOLS



Here's the last word in sharp appearance, top performance and advanced engineering in a complete range of Coolers that add a new boom to your summer sales.

Just compare the "New Look" of the La Crosse to any other you've ever seen . . . for quality, for price, for customer acceptance.

- Beautiful grey hammertone baked enamel finish (or stainless steel).
- Finger tip, stainless steel slide away doors.
- Efficient air circulation . . . rugged refrigeration system.
- Fiberglass insulation . . . a full 3" of insulation provides maximum protection against cold air loss.

Watch your sales climb with these La Crosse Products: REACH-INS . . .

La Crosse . . . the most famous name in Commercial Refrigeration Equipment adds another first with the "New Look" line of Beverage Coolers. New features open up new sales for you. Where ever there is a need for dependable equipment you can sell La Crosse faster and easier.

- Larger, handier bottle opener and cap catcher (5 1/2" wide mouth). Decrown several bottles at one time.
- Recessed door openers . . . recessed bottom adds pleasing streamlined appearance.
- There's a La Crosse model for every need . . . available electric complete or remote in complete range of sizes and capacities.

WALK-INS . . . KUBE KING . . . DIRECT DRAWS . . . DRAIN BOARDS.

WRITE TODAY FOR COMPLETE INFORMATION

LA CROSSE COOLER COMPANY

Factory and Gen'l Offices: 3000 Losey Blvd., S., La Crosse, Wis.
Export Office: 80 Broad St., New York City. Cable Address: Eximport

KRACK Low Cost.. Best Quality Remote Type, 2-10 Ton AIR CONDITIONERS

- These Komfort Masters are adaptable to use with ducts—stripped units available for furred-in installations.
 - Quiet operating centrifugal fan.
 - Attractive bronze cabinet finish—stainless steel trim.
- GET NEW BULLETIN CM-955 for details!



901 W. LAKE ST., CHICAGO 7, ILL.

25th Anniversary in Refrigeration and Air Conditioning



PATENTS

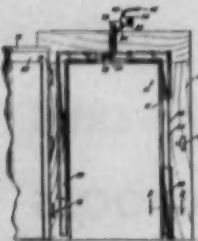
Week of January 24

2,731,888. REFRIGERATOR DOOR AND METHOD OF MAKING THE SAME. Winfield C. Evans, Mount Airy, Md., assignor to Jamison Cold Storage Door Co., Hagerstown, Md., a corporation of Maryland. Application Oct. 27, 1953, Serial No. 268,637. 3 Claims. (Cl. 20-35.)



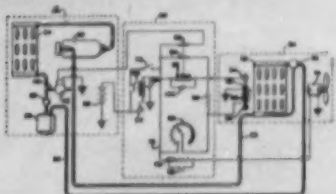
1. A refrigerator door comprising a mass of temperature insulating material having substantially the shape and dimensions of the door, an envelope of permeable flexible material completely and snugly enclosing said mass, a thermoset plastic composition impregnating said envelope and bonding said envelope to said mass, and an outer covering of thermoset plastic composition integrally connected with the impregnated envelope and completely enclosing the same, said thermoset composition being cured under heat and pressure to provide a rigid finished door.

2,731,894. FROST PREVENTER FOR FREEZER DOORS. John V. Grubbs, Sr., Mobile, Ala. Application June 11, 1954, Serial No. 436,031. 1 Claim. (Cl. 62-2.)



A frost prevention device for use in conjunction with an entrance opening in a walk-in type low temperature compartment having a pivotally mounted closure door attached to the wall adjacent the opening, said door engaging a facing about three sides of the opening, said door having a peripheral gasket for engaging the outer surface of the facing, said facing having a pair of spaced parallel grooves in the outer surface thereof at each side edge of the opening, said facing having a transverse groove interconnecting the lower ends of said spaced grooves, said facing having a pair of spaced grooves in the front surface at the upper edge thereof and communicating with the parallel groove in the side edges, the upper of said grooves in the upper edge terminating centrally in vertically extending grooves disposed in the outer surface of the facing, a continuous heating element disposed in said grooves and having free ends connected to a thermostatic control device, said facing having an enlarged groove in the outer surface of the upper edge thereof for receiving a heat bulb for actuating said thermostatic control, and a flat cover plate of non-corrosive heat resistant material positioned over said grooves in the facing and forming a smooth seat for engagement by the gasket on the pivotal closure door, said cover plate conducting heat from the heating element for melting frost from the facing and closure door adjacent the opening.

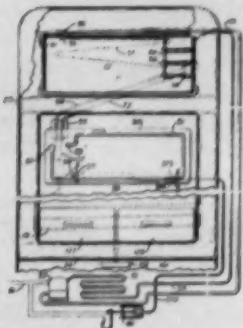
2,731,896. REFRIGERATING APPARATUS. Albert J. Kuhn, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Aug. 16, 1952, Serial No. 304,745. 6 Claims. (Cl. 62-3.)



2. In an air conditioning system, an evaporator, a compressor, a condenser, means for connecting the outlet of said compressor to the inlet of said condenser, means for connecting the outlet of said condenser to the inlet of said evaporator, means for connecting the outlet of said evaporator to the inlet of said compressor, refrigerant by-pass means for returning refrigerant leaving said condenser to the inlet of said compressor without passing through said evaporator, a valve in said by-pass means, a thermostat for controlling said by-pass valve, and means for adjusting the temperature at which said thermostat controls said

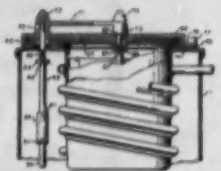
by-pass valve, said last named means comprising a heater in thermal exchange relationship to said thermostat and a rheostat for controlling said heater, and means for increasing the current flowing through said heater in response to opening of said valve.

2,731,898. REFRIGERATING APPARATUS INCLUDING DEFROSTING MEANS. Clifford H. Wertz, Oakwood, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Jan. 4, 1952, Serial No. 264,915. 4 Claims. (Cl. 62-4.)



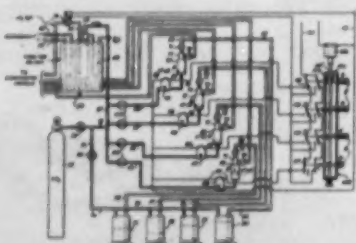
1. Refrigerating apparatus including an above freezing food compartment and a below freezing compartment, a thermal heat transfer barrier between said compartments, a refrigerant liquefying means, a freezing evaporating means in heat exchange relation with said below freezing compartment and having its inlet connected to an outlet of said liquefying means, a food compartment evaporating means in heat exchange relation with said food compartment and having its inlet connected to an outlet of said freezing evaporating means, means for returning evaporated refrigerant from said freezing and food compartment evaporating means to said liquefying means, and thermostatic cycling control means set to operate upon a defrosting cycle for controlling the operation of said liquefying means, said food compartment evaporating means including a refrigerant passage extending from its inlet to its outlet, said control means including a first thermosensitive element located in intimate heat exchange relationship with one portion of the food compartment evaporating means, said control means also including a second thermosensitive element located in poor heat exchange relationship with another portion of the food compartment evaporating means.

2,731,899. ICE CREAM MAKING APPARATUS. James S. Mackney, Los Angeles, Calif. Application April 11, 1952, Serial No. 281,761. 11 Claims. (Cl. 62-114.)



1. In combination with a refrigerating unit having refrigerant circulating tubes, an apparatus for making ice cream comprising a casing supported by the unit, a can mounted in the casing, means for extending the tubes around the can, an ice cream container removably positioned in the can, a vertical shaft removably supported by a central annular upstanding bearing in the bottom of the container, a plurality of paddles mounted on the shaft, a pair of cross arms mounted on the shaft, scraping vanes mounted on the cross arms, and means to rotate the shaft including a cover, said cover being removably attached to said vertical shaft.

2,731,906. AUTOMATIC BEVERAGE VENDING MACHINES. William V. King, Stamford, Conn., assignor, by mesne assignments, to Rowe Spacarb, Inc., New York, N. Y., a corporation of New York. Application Oct. 17, 1951, Serial No. 251,774. 16 Claims. (Cl. 99-275.)



1. In a beverage vending machine of the type described, a carbonator, a plurality of individual syrup sources, a source of CO₂ gas under pressure, a plurality of conduits for conducting CO₂ gas from said source to said carbonator and to each of said syrup sources, a metallic block surrounding said carbonator, separate conduits for refrigerant and sweet water cast into said block, said sweet water conduit communicating with said carbonator, a plurality of syrup measuring valves in contact with said metallic block for heat exchanging relationship therewith, each said valve comprising a cylindrical member having closures at

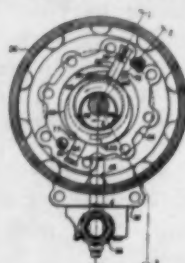
either end thereof, a floating piston therein, a CO₂ conduit communicating with one end of said cylindrical member and said CO₂ source, two other conduits communicating with the other end of said cylindrical member one of said conduits communicating with one of said syrup sources and the other said conduit allowing egress of syrup from the cylindrical element, and a control valve element for each syrup measuring valve positioned in the CO₂ conduit communicating with said one end of said cylindrical member, said control valve element having positions for permitting said fluid communication between said CO₂ source and said cylindrical element, and preventing such communication and opening said cylindrical element to atmospheric pressure.

2,732,074. ACCUMULATOR DRIER FOR REFRIGERATING APPARATUS. Charles H. Kuthe, Detroit, Mich., assignor to Calumet & Hecla, Inc., Calumet, Mich., a corporation of Michigan. Application Nov. 10, 1952, Serial No. 319,737. 6 Claims. (Cl. 210-131.)



1. In refrigerating apparatus, a tubular casing of circular cross section having an inlet opening at one end and an outlet opening at the opposite end, a foraminous bag containing a desiccant material supported within the casing between the openings, a polygonally shaped baffle plate supported within the casing between the bag and inlet opening being so dimensioned and arranged as to entirely shield the bag from direct impingement by a stream of refrigerant entering the inlet opening, said baffle plate having a central portion positioned in alignment with the inlet opening lengthwise of the casing and having portions diverging from opposite sides of the central portion toward the outlet opening, the opposite side edges of the plate frictionally engaging the inner surface of the casing at points spaced circumferentially of the casing to hold said baffle plate in place, said opposite side edges contacting with adjacent walls of the casing to form openings enabling refrigerant to bypass the baffle plate, and the side wall of said bag being spaced inwardly of said casing to define an annular passage extending lengthwise of the casing from said outlet opening to said bypass opening.

2,732,126. REFRIGERATING APPARATUS. Wolf M. Smith, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Aug. 27, 1951, Serial No. 343,799. 7 Claims. (Cl. 230-145.)

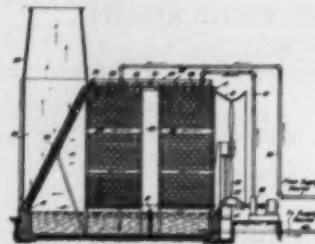


1. A rotary compressor including an impeller casing provided with spaced parallel plane wall surfaces and a round wall surface extending between the plane wall surfaces, an impeller within the casing having surfaces in sealing relation with the spaced walls of the casing, a plurality of space sealing means extending between a plurality of spaced points on the casing and on the impeller to divide the space between the impeller and the casing into a plurality of pumping chambers, means for moving the peripheral surface of the impeller progressively into sealing relation with successive portions of the round wall surface of the casing, a separate inlet port for each pumping chamber in the plane wall surface adjacent one side of each sealing means located so as to be covered and uncovered by the impeller during each revolution, the radially outer edge of each of said inlet ports substantially coinciding with the adjacent peripheral portion of the impeller when the impeller is about 1/4 of a revolution in advance of the completion of the compression stroke, and outlet means for each of said pumping chambers.

2,732,190. CROSS FLOW COOLING TOWER HAVING RECYCLING SYSTEM. Leon T. Mart, Mission Township, Johnson County, Kans., assignor to The Marley Co., a corporation of Delaware. Application Sept. 24, 1952, Serial No. 311,227. 2 Claims. (Cl. 261-21.)

1. Structure for the air cooling of water comprising a hollow housing having a portion at one end thereof extending upwardly into a vertical stack discharging above the top of the housing; an air inlet tube at the opposite end of the housing; a fill assembly in the housing between the tube and said portion, and including an inner section and an outer section; a hot water receiving basin overlying the assembly at said top of the housing and provided with a perforated bottom wall; a par-

tion in the basin subdividing the same into a tray for each of said sections respectively; a sump at the bottom of the housing; a partition in the sump subdividing the same into an inner catch basin beneath said portion and said inner section and an outer catch basin beneath the outer section;



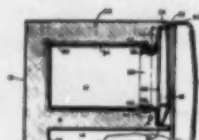
a hot water feed pipe discharging into the tray overlying the inner section; means for pumping water from the inner catch basin and discharging the same into the other tray; conduit means for draining water from the outer catch basin; and a fan within the tube for directing currents of air through the fill assembly, transversely across the water gravitating there-through, and thence to said portion of the housing to the stack for discharge therefrom.

2,732,235. MULTIPLE LATCH FOR A REFRIGERATOR DOOR. William J. Schemers, Detroit, Mich. Application June 2, 1952, Serial No. 291,248. 4 Claims. (Cl. 292-34.)



1. An anti-warped door-latching mechanism comprising a pair of latch bolt housings secured in longitudinally-spaced relationship to the open edge of the door, a latch bolt reciprocally mounted in each housing, means responsive to the locking reciprocation of said bolt for urging said door into a closing and sealing engagement with the door frame, a resilient element operatively connected to each latch bolt and yieldingly urging said latch bolt in a latching direction, a motion-transmitting bolt-retracting device including a vertically-disposed rotatable rod operatively interconnecting said bolts in simultaneous actuating relationship, and a handle operatively connected to said rod intermediate said bolts.

2,732,272. REFRIGERATING APPARATUS. Leonard J. Mann, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application July 23, 1952, Serial No. 300,438. 3 Claims. (Cl. 312-214.)



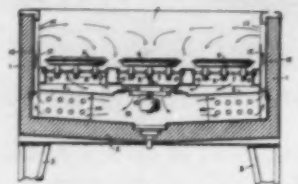
1. In a refrigerator, an outer shell having an opening at its front side, an outer door for closing said opening, an inner liner forming a food storage compartment, said inner liner having a flange adjacent its front edge spaced inwardly from said front opening and arranged perpendicular to the side walls of said inner liner, insulation between said outer shell and said inner liner, breaker strip means between said outer shell and said inner liner, said breaker strip means comprising a one-piece molded element having an offset intermediate portion forming an inner door jamb and door seat, a flange provided on said breaker strip means abutting said first named flange, clamp means straddling said flanges, said clamp means and said molded element having interlocking portions for holding said clamp means in clamping engagement with said flanges, and an inner door cooperating with said door seat to close said food storage compartment.

Week of January 31

2,732,689. REFRIGERATED DISPLAY CABINET. Clifford B. Shreve, Buchanan, Mich., assignor to Tyler Refrigeration Corp., a corporation of Michigan. Application April 15, 1953, Serial No. 348,942. 1 Claim. (Cl. 62-89.5.)

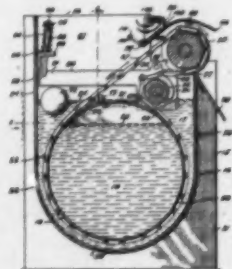
A refrigerated cabinet having an open topped compartment, said compartment having a bottom and opposite sides, a plenum chamber beneath said bottom near the center thereof and extending substantially the entire length of the cabinet, a restricted air inlet through said bottom into said plenum chamber and extending substantially the entire length of the cabinet, an air cooling element at each side of said plenum chamber in the direction of said sides, an air conduit leading from each of said cooling elements to the respective opposite sides of the compartment, an

outlet passage from each conduit into said compartment at opposite sides and near the top thereof, a fan located to draw air from said compartment



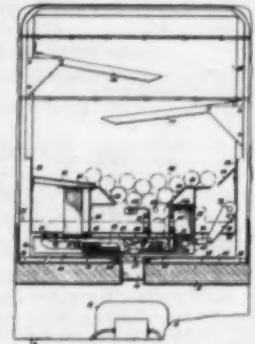
through said restricted air inlet and force it under pressure into said plenum chamber, means for supporting merchandise in said compartment spaced above the bottom thereof, said supporting means providing free passage of air therethrough, said supporting means being a conveyor transverse lengthwise of said compartment.

2,732,690. ICE BARS AND MACHINE FOR AND METHOD OF MAKING SAME. Ray M. Henderson, Whitmore Lake, Mich. Application June 29, 1950, Serial No. 171,073. 35 Claims. (Cl. 62-106.)



1. In a machine for making ice bars, a heat exchange drum, and a heat exchange chain trained about a portion of the periphery of said drum, said chain including laterally spaced apart plate-like fins, normal to the periphery of the drum, said fins each having a concave edge and the concavity of each fin having a radius equal to the radius of the external periphery of said drum for surface to surface contact with the latter, and each fin provided with at least one arcuate laterally extending flange flush with its concave edge.

2,732,974. REFRIGERATED VENDING MACHINE. Charles S. Hedges, Kansas City, Mo., assignor to The Vendo Co., Kansas City, Mo., a corporation of Missouri. Application May 24, 1952, Serial No. 289,857. 1 Claim. (Cl. 221-194.)



In a vending machine, an article storage unit having a pair of spaced vertical walls defining an article passage and a pair of opposed baffle elements inclined downwardly and inwardly toward the passage for guiding articles thereto, each vertical wall having an outwardly extending horizontal guide wall; mechanism reciprocable horizontally beneath the passage transversely of the latter for receiving articles singly from the passage and discharging the same from the machine; means mounting said mechanism for vertical movement as it is reciprocated; an upstanding agitator on each side respectively of the passage and secured to the mechanism for shifting the articles from the baffle elements to the horizontal walls and thence into the passage as the mechanism is reciprocated; and a plurality of inclined, article-supporting baffle plates carried by said unit above the elements, said plates being swingable upwardly for free upward movement of the articles within the unit as the agitators move vertically with the mechanism.

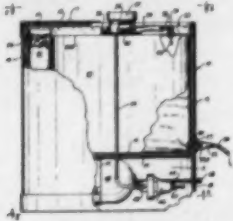
2,732,977. PORTABLE CARBONATED BEVERAGE DISPENSER. Edward B. Charpiat, Denver, Colo., assignor to The Charpiat Corp., a corporation of Colorado. Application Jan. 19, 1950, Serial No. 139,413. 3 Claims. (Cl. 222-131.)

1. A back-supported portable dispenser for carbonated beverages and the like, comprising a casing having external means for attaching the dispenser to a flexible harness for supporting said dispenser on the back of a user, said casing also having an upper compartment and a lower compartment, an insulated dividing wall between and separating the compartments a beverage containing tank disposed within the upper compartment, said tank having a removable flanged threaded neck mounted upon its top wall, means for attaching the neck (Continued on next page)

PATENTS

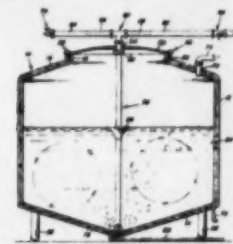
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to said wall and a removable cap for the neck, means also within the upper compartment for chilling the beverage within the tank, a gas pressure tank located within the lower compartment, a conduit connecting the gas pressure tank with the beverage containing tank above the level of the beverage therein for maintaining the



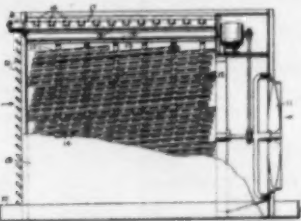
beverage at a predetermined pressure, means for dispensing the contents of the beverage containing tank, a charging conduit extending from the gas pressure tank through a wall of the lower compartment and accessible from outside the casing, and a pressure regulator for the gas disposed between the two tanks and accessible through a wall of said casing at a point below the dividing wall.

2,733,042. MILK COOLER. Thomas B. Rowland, Pocatello, Idaho. Application Feb. 10, 1953, Serial No. 336,033. 3 Claims. (Cl. 257-76.)



1. A dairy apparatus comprising a sealed tank having a dished bottom wall, means for refrigerating at the least the bottom wall of said tank, a vertical conduit disposed within the tank the lower end of the conduit being positioned closely adjacent the center of the bottom wall and communicating therewith with the interior of the tank, an inverted substantially conical float member slidably received on said conduit, means for connecting said tank to a source of vacuum and means for selectively bleeding air into said tank through said conduit, whereby air bubbles rising from the lower end of the conduit will impinge upon and be deflected by the surface of the float to impart a circular agitating motion to milk within the tank.

2,733,055. COOLING TOWERS. Fred Ophuls, New York, N. Y., and Walter E. Bernad, Washington, D. C. Application July 28, 1950, Serial No. 176,435. 2 Claims. (Cl. 261-24.)



1. In a cooling tower, a plurality of parallel decks substantially filling the tower each deck including a plurality of spaced parallel flat slats with the faces of the slats located in planes parallel to the deck, and the slats of adjacent decks being staggered with the forward and rearward edges of each slat respectively located substantially above two slats of the next lower deck which are adjacent to each other, the said decks being spaced

apart distances less than the width of the slats of which they are composed, blower means for effecting air flow through the tower in a direction generally parallel to the planes of the decks, the said decks being inclined with respect to the horizontal with their lower edges at the air inlet end of the tower, and means for distributing the water to be cooled substantially uniformly over the uppermost deck, the said tower being substantially rectangular in a plane perpendicular to the longitudinal axis of the slats, with two of the sides of the rectangle being horizontal and the other two sides vertical, the air pressure of the blower means and the inclination of said decks being so related that approximately as much water gravitates to the lower quarter of the tower at the air inlet end thereof as is carried backward to the lower quarter of the tower at the outlet end thereof by the air draft.

2,733,090. SAFETY RELEASE FOR VAULTS, REFRIGERATORS, AND THE LIKE. George Coplen, Cripple Creek, Colo.



A retractable keeper for latching a latch bolt of a forwardly swinging door in its jamb comprising: a horizontal keeper shaft rotatably mounted in said jamb in horizontal alignment with and spaced from the extremity of said latch bolt and at right angles to the plane of said door; a keeper secured on and normally projecting horizontally from said shaft toward and into the path of said latch bolt to prevent said door from being opened; an actuating lever secured on the rear extremity of said shaft; a depressible floor treadle positioned across the lower edge of said door parallel to and spaced from the rear face of said door, one extremity of said treadle being positioned directly beneath said actuating lever; a connecting rod extending from the latter extremity of said treadle to said actuating lever; and a horizontal pivot pin extending transversely through said treadle adjacent said one extremity to provide a tilting fulcrum for said treadle so that when the other extremity thereof is depressed, said one extremity will force said connecting rod upwardly to cause said actuating lever to rotate said keeper shaft so as to swing said keeper upwardly from the path of said latch bolt.

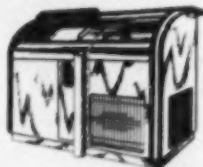
2,733,092. MAGNETIC DOOR CATCH. Macy O. Teetor, New Orleans, La. Application April 12, 1952, Serial No. 282,050. 13 Claims. (Cl. 292-251.5.)



4. In a magnetic catch, a magnet unit comprising a supporting member of molded rubberlike material adapted to be secured adjacent one side thereof to a surface, and a permanent magnet element embedded at the opposite side of said member and having one face thereof exposed for contacting an armature element, said supporting member being provided with a slot intermediate the magnet element and said one side thereof whereby to facilitate flexible resilient outward and angular movement of the magnet and the surrounding portion of said member for permitting contact of the magnet with an armature element.

DESIGNS

176,762. COMBINATION BEVERAGE DISPENSER AND COOLER. Edgar C. Harrison, Charles Town, W. Va., assignor to The Victor Products Corp., Hagerstown, Md., a corporation of Maryland. Application Feb. 13, 1955, Serial No. 34,570. Term of patent 3 1/2 years. (Cl. D2-3.)



CHIEF REFRIGERATION ENGINEER

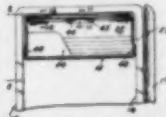
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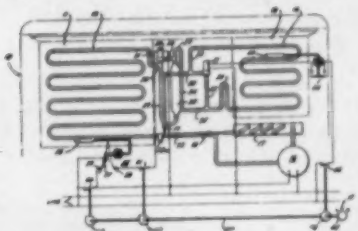
Week of February 7

2,733,483. EVAPORATOR DOOR AND HINGE ASSEMBLY. Florence B. Anderson, Winnetka, Ill., assignor to Motor Products Corp., Detroit, Mich., a corporation of New York. Application March 31, 1953, Serial No. 379,640. 15 Claims. (Cl. 20-35.)



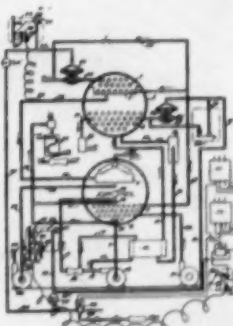
3. A hollow insulating door construction comprising front and rear rectangular panels, abutting inwardly extending flanges along all four corresponding edges of said panels, interlocking hook constructions on said panels in the space defined by said flanges, and fastening elements securing said flanges to each other.

2,733,574. REFRIGERATING SYSTEM. Carroll J. Reber, Jr., Havertown, Pa., assignor to Philco Corp., Philadelphia, Pa.



1. A refrigeration system comprising: refrigerant circulating and condensing means; expansion means; evaporator means including first and second evaporator portions; accumulator means including a liquid collecting portion, a gas collecting portion, an inlet port, and an outlet port, the latter being in the said liquid collecting portion; conduit means connecting all of said previously mentioned means in closed refrigerant flow circuit, said conduit means including a first portion connecting said condensing and expansion means to the inlet of said first portion of said evaporator means, a second portion connecting the outlet of said first evaporator portion to the inlet of said accumulator means, a third portion connecting the outlet of said accumulator means to the inlet of said second evaporator portion, and a fourth portion for returning the refrigerant from the outlet of second evaporator portion to said circulating means; a by-pass conduit connecting said gas collecting portion of said accumulator means to said third conduit portion; and flow control means for controlling the flow of refrigerant through said by-pass conduit; said by-pass conduit being so associated with said accumulator and said third conduit that said flow control means may cause liquid refrigerant to flow into said second evaporator portion or be trapped in said accumulator means.

2,733,575. CONTROL ARRANGEMENT FOR ABSORPTION REFRIGERATION SYSTEMS. Louis Howell Leonard, Jr., East Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y.



1. In an absorption refrigeration system, the combination of a generator, a condenser, an evaporator and an absorber placed in a closed circuit, the circuit containing a saline solution as an absorbent and water as a refrigerant, means for maintaining substantially constant flow of solution through the system, a line for supplying a heating medium to the generator in heat exchange relation with solution therein, a pneumatic valve placed in said line, means for imposing air pressure against said valve, a control for regulating the air pressure imposed against said valve responsive to temperature of chilled water leaving the evaporator, a second pneumatic valve for regulating passage of condensing water through the condenser, means for imposing air pressure against said valve, and a second control for regulating the air pressure imposed against said second valve responsive to change in temperature of condensate leaving the condenser.

2,733,576. SAFETY DEVICE FOR REFRIGERATORS. Corbin B. Knack, Ashland, Pa.

1. In a refrigerator of the type having a rear wall and a front wall element parallel to said rear wall provided with a door latch element slidable horizontally in said front wall element and adapted to lockingly en-

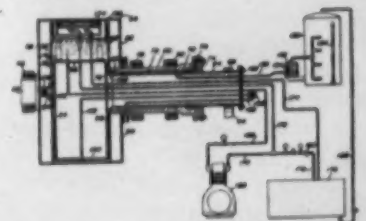
gage with a refrigerator door hinged to the refrigerator adjacent said front wall element, a safety latch device comprising a support mounted transversely in the refrigerator between said rear wall and said front wall ele-



ment, a detent member slidably mounted on said support and being interengageable with said door latch element to hold said door latch element in latching position, spring means urging said detent member away from said door latch element, a horizontal abutment member slidably mounted in and extending outwardly from said rear wall and being engageable with the end of said detent member, and a plug mounted in said rear wall and being connected to the refrigerator operating circuit, said plug being engageable in a wall mounted receptacle to complete the operating circuit, said abutment member being located adjacent said plug in a position to engage an abutment surface provided on said wall mounted receptacle, whereby to hold said detent member in engagement with said door latch element when the plug is engaged in the receptacle and to allow the detent member to be re-

tracted from engagement with the door latch element when the plug is disconnected from the receptacle.

2,733,577. ICE CUBE MACHINE. William L. Rothe, New Lisbon, Wis. Application Feb. 2, 1953.



1. An ice cube machine comprising a substantially cylindrical drum, means for rotating said drum, connections for introducing liquid refrigerant into said drum, a compressor connected to remove gaseous refrigerant from said drum, means for spraying water on the outer surface of said drum, an auxiliary container mounted in said drum, said auxiliary container being in thermoconducting relation with the upper portion of said drum, thermal insulation between said auxiliary container and the refrigerant in said drum, connections between said compressor and said auxiliary container for introducing compressed gaseous refrigerant into said auxiliary container.

(To Be Continued)

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(Concluded from Page 1, Col. 4)

year-round (heating and cooling) residential systems, but it's still tough.

"Self-contained Package Commercial Units: As an example of what is happening, one of our distributors is back-ordered on 27 10-ton units. Not too many years ago, that would have been a big sales total for the year on that particular size of unit. We might get in some kind of balance on package units early in July, if we keep getting units from the factory, but this is doubtful.

"Big Central Systems: Probably will have the biggest year in history, by far.

"All in all, if we can get enough units, sales for the year might conceivably go 2½ to 3 times as great as last year's. Are units in demand? Well, we've got some dealers who are so desperate that they have been calling the factory direct and getting the low-down on when shipments will be made into our territory. Sometimes they get the information before we do. Then they confront us with these shipping dates, and want to know 'where's my merchandise.'"

Mitchell Reports on Inventory Picture

The situation of one manufacturer, Mitchell Mfg. Co., Div. of Cory Corp., was summed up by an official in the following manner:

"So far as inventory of room air conditioners is concerned, we haven't had any since early this year. We're still in full production, on nearly a two-shift basis, and we'll be in production all the rest of the summer, just trying to fill the orders we have booked.

"On complete home residential air conditioners we have put through a re-order to our production people, which will keep them in production all summer long. We have stock on only a relatively few models of the more than 40 models that we have in the residential line.

Sees Longer Selling Season This Year

"We think the 'season' for selling air conditioning will extend longer than ever this summer, and Mitchell will announce a new marketing plan for the balance of the season at a series of regional meetings starting June 29."

Other Manufacturers Report Sales Up, Inventories Low

Some of the reports from other manufacturers: **Philco:** "We're shipping right from the production line." **Gibson:** "Less than a week's inventory of the most popular models, and production schedules have been adjusted upward three times." **General Electric (Louisville):** "Inventories very low, production on a 20-hour day basis." **Chrysler Airtemp:** "Indications of a complete sellout on three or four models." **Welbilt:** "Sold out until July 15 on ¾ and 1-hp. units, sold out until July 30 on 1½-hp. units."

At the distributor and dealer level, L. & P. Electric Co., New

York metropolitan area distributor for Fedders-Quigan, reported deliveries to stores on Thursday, June 14 reached a record 2,413 units. Previous record was 1,700 units on July 5, 1955.

In Chicago, where over-all sales of room air conditioners were said to be running at least as much as 40% over last year, Sol Polk, who claims to sell more appliances than any other independent retailer, said his company's warehouse was operating on a 24-hour schedule during the heat wave and that deliveries were nearing 1,000 units a day.

Polk, who first gained notoriety as a leading discounter, probably came up with the most startling advertisement during the "hot spell"—a full page in the *Wall Street Journal*.

UA Wins Mack Plant Dispute--

(Concluded from Page 1, Col. 5)

some 1,200 UAW members joined the maintenance men in a one-day strike, the Home Master Sales Co. employees left without making the installation. Upon request of the Mack management, the dealer sent the installation crew out to the plant again at a later date, but they were turned away again by the opposition of the maintenance union.

The dispute reportedly was then taken to the "high councils" of the "united" AFL-CIO union. However, no action was taken, it was reported, until Mack Co. officials issued an ultimatum demanding a decision.

Dealers and contractors throughout the country were watching the situation with high interest, because an assignment of the installation

work to the UAW-CIO plant maintenance workers would have resulted in all sorts of problems in future industrial air conditioning installations.

Name Top Union Group In Jurisdictional Row

WASHINGTON, D. C. —

Building trades unions of the old AF of L setup have called off their two-month-old program of obstructing further mergers of state and local labor groups, pending action on AFL-CIO President George Meany's proposed solution to jurisdictional disputes in plant construction work.

The uprising by the building tradesmen broke out in April when the AFL men started com-

plaining that industrial unions from the CIO side of the labor setup were getting too big a share of the construction work in factories.

A manifesto signed by heads of 18 of the 19 building trades unions said that until a jurisdictional agreement was signed with the CIO organizations, building trades unions would try to prevent any further amalgamations of AFL and CIO state and city federations.

Under the solution proposed by Meany, a committee of six top union leaders has been named to work out an over-all jurisdictional policy that would apply to all future controversies among the building tradesmen and members of industrial-type unions.

Members of this committee include leaders of the UAW, steelworkers, rubber workers, bricklayers, carpenters, and electrical workers.



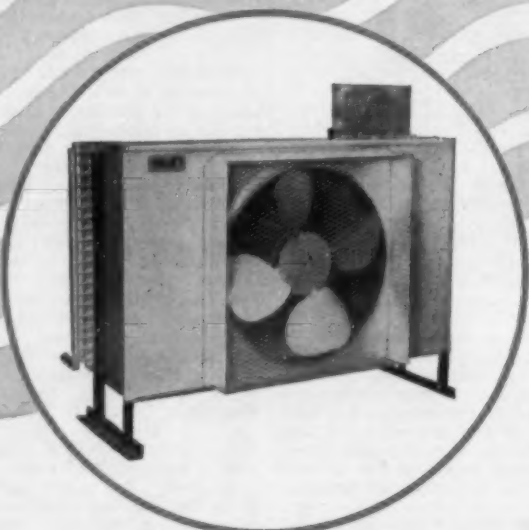
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